HALL'S MATHEMATICAL SERIES

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ELEMENTARY ARITHMETIC

BY

FRANK·H·HALL

WERNER SCHOOL BOOK COMPANY
EDUCATIONAL PUBLISHERS
NEW YORK · CHICAGO · BOSTON

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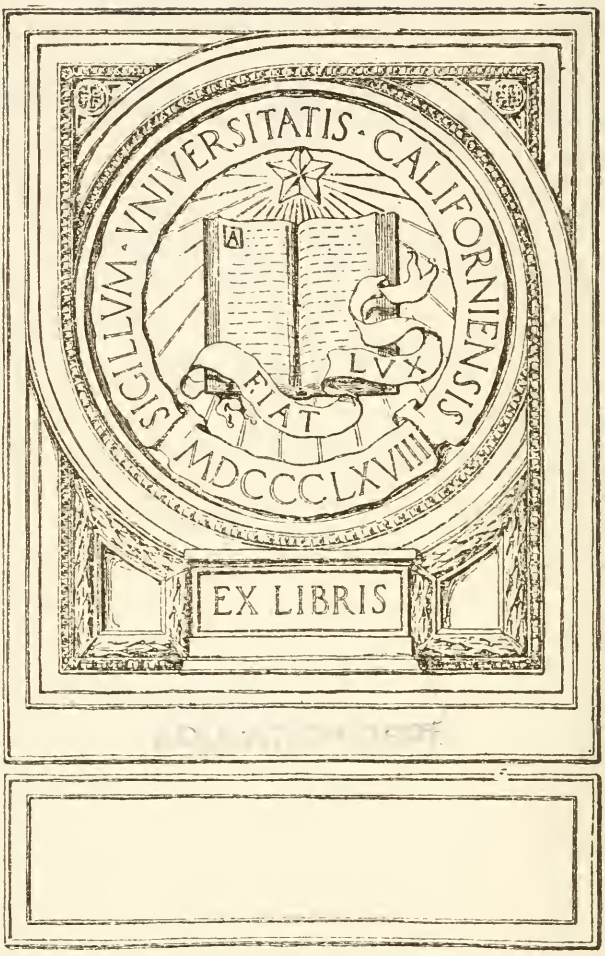
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HALL'S MATHEMATICAL SERIES

AN ELEMENTARY ARITHMETIC

ORAL AND WRITTEN

BY

FRANK H. HALL

AUTHOR OF "THE WERNER ARITHMETICS," "THE ARITHMETIC READERS," ETC.

WERNER SCHOOL BOOK COMPANY

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PREFACE.

The prominent feature of this book is the *spiral advancement plan* upon which it is built. The basis of the spiral is the five fundamental thought processes of arithmetic, viz.:

1. The uniting of numbers (of things)—addition.
2. The separating of numbers (of things)—subtraction.
3. The taking of numbers (of things) a given number of times—multiplication.
4. The finding of how many times one number (of things) is contained in another number (of things)—division.
5. The finding of one of the equal parts of a number (of things)—division; or, as it is sometimes called, *partition*.

These five processes appear in groups,—five times on page 9 in problems so simple that the tyro will find little difficulty in understanding them; twice on page 10; five times on page 11; four times on page 23; twice on page 25; three times on page 89; twice on page 96; three times on page 109; twice on page 114; three times on page 119; twice on page 146, and at least once on nearly one fourth of the pages of the book. Each of these "spirals" is a little more difficult than the preceding one, and each is preparation for the one that follows.

The variety in the book comes (1) from the introduction of new terms, (2) from the gradual increase in the difficulty of the problems, and (3) from the different magnitudes (things) to which these processes are applied.

The plan of the book provides that the pupil may become familiar with the terms peculiar to mathematics

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by their use rather than by definition. See the words *sum*, *difference*, *product*, *quotient*,—pages 18, 19, 20, 21, 22, 156, 157, 158, 159; the words *triangle*, *oblong*, *pentagon*, *square*, *perimeter*, *area*,—pages 63, 73, 83, 93, 103, 113.

On pages 10 and 12 the fundamental processes are applied to *inches*, *feet*, and *yards;* on page 23, to *apples*, *cents*, *trees*, and *degrees;* on page 35, to *halves* and *fourths;* on page 36, to *half-inches* and *fourth-inches;* on page 37, to *half-dollars* and *fourth-dollars;* on page 45, to *halves* and *sixths;* on page 55, to *halves*, *fourths*, and *eighths;* on page 89, to *inches*, *sixths*, and *tenths written decimally*, etc.

In no part of the book is the pupil allowed to lose sight of the fact that his arithmetic work is mainly adding, subtracting, multiplying, dividing, and "parting"; and he soon learns to take great delight in applying these processes to new magnitudes.

So close is the connection between the oral and the written work (see pp. 112, 122, 132, 142, 155, 156, 157, 165, 170, 209, etc.), that the former becomes a preparation for, and a stepping stone to, the latter. It is *all* "mental" arithmetic, some of the problems of which are to be solved without and some with the aid of a pencil.

There is such an abundance of concrete problems that the pupil never leaves out of his thought, for any considerable length of time, *the magnitude idea.* But if, in the learning of the merely mechanical processes, he for the moment loses sight of quantity, he is able quickly to project into the abstract problem the notion of magnitude and magnitude relation. The book thus becomes, not simply an arithmetic, but *a first book in mathematics.*

F. H. H.

Jacksonville, Illinois, April, 1899.

NUMBER FACTS

To be taught orally before the book is put into the hands of the pupil. Each fact of separation or combination here given should be worked out with objects and measurements, then *memorized*—PERFECTLY MEMORIZED.

THIRTY-THREE FACTS OF ADDITION.

1	2	3	2	4	3	5	4	3	6	5
1	1	1	2	1	2	1	2	3	1	2
2	3	4	4	5	5	6	6	6	7	7
4	7	6	5	4	8	7	6	5	9	8
3	1	2	3	4	1	2	3	4	1	2
7	8	8	8	8	9	9	9	9	10	10
7	6	5	9	8	7	6	9	8	7	6
3	4	5	2	3	4	5	3	4	5	6
10	10	10	11	11	11	11	12	12	12	12

If the thirty-three facts of addition given above are taught properly, the pupil will, at the same time, acquire a knowledge of the corresponding facts of subtraction; thus, if it is clear to the pupil that 7 and 5 are 12, he will also know that 12 less 7 are 5, and that 12 less 5 are 7.

TWELVE FACTS OF MULTIPLICATION.

2 twos = 4	3 twos = 6	4 twos = 8
5 twos = 10	6 twos = 12	2 threes = 6
3 threes = 9	4 threes = 12	2 fours = 8
3 fours = 12	2 fives = 10	2 sixes = 12

If these twelve facts of multiplication are taught properly, the pupil will, at the same time, acquire a knowledge of twelve facts of division; thus, if it is clear to him that 3 twos are 6, it must be equally clear that 6 is 3 twos; or,

to use the ordinary mathematical expression of this fact, that 2 is contained in 6 three times.

These twelve facts of multiplication will also give to the thoughtful pupil twelve other facts of division, often called

FACTS OF PARTITION.

$\frac{1}{2}$ of 4 = 2	$\frac{1}{3}$ of 6 = 2	$\frac{1}{4}$ of 8 = 2	$\frac{1}{5}$ of 10 = 2
$\frac{1}{6}$ of 12 = 2	$\frac{1}{2}$ of 6 = 3	$\frac{1}{3}$ of 9 = 3	$\frac{1}{4}$ of 12 = 3
$\frac{1}{2}$ of 8 = 4	$\frac{1}{3}$ of 12 = 4	$\frac{1}{2}$ of 10 = 5	$\frac{1}{2}$ of 12 = 6

SEVEN DENOMINATE NUMBER FACTS.

1 foot = 12 inches. 3 feet = 1 yard. 2 nickels = 1 dime.
10 dimes = 1 dollar. 2 pints = 1 quart. 4 quarts = 1 gallon.
100 cents = 1 dollar.

FACTS OF PARTITION AND MULTIPLICATION.

4 is $\frac{2}{3}$ of 6.	6 is $\frac{2}{3}$ of 9.	8 is $\frac{2}{3}$ of 12.
6 is $\frac{3}{4}$ of 8.	9 is $\frac{3}{4}$ of 12.	4 is $\frac{2}{5}$ of 10.

It will be observed that these facts are combinations of facts given before. The work should be performed first with objects.

It is very desirable that the pupil shall give the answer to such questions as, 6 *is* $\frac{2}{3}$ *of how many?* not from memory, but by thinking 6 objects divided into two equal groups, and by adding to the two groups another similar group: thus, (111 111) 111.

OTHER FACTS OF PARTITION.

$\frac{1}{2}$ of 3 = $1\frac{1}{2}$.	$\frac{1}{2}$ of 5 = $2\frac{1}{2}$.	$\frac{1}{2}$ of 7 = $3\frac{1}{2}$.
$\frac{1}{2}$ of 9 = $4\frac{1}{2}$.	$\frac{1}{2}$ of 11 = $5\frac{1}{2}$.	$\frac{1}{3}$ of 7 = $2\frac{1}{3}$.

Not by definition, but by frequent use, the pupil should become familiar with the following terms and expressions: *add, subtract, multiply, divide, sum, difference, product, quotient, square, oblong, triangle, square inch, 2-inch square, 3-inch square, is contained in.*

Do not use the sign (×) for the word times. Whenever this sign is employed in the lower grades, it should be used for the words *multiplied by.*

CONTENTS.

PRIMARY NUMBER FACTS

PART I.

PART II.

PART III.

PART IV.

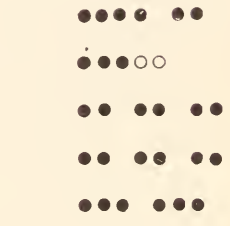
PROBLEMS

At bottom of pages, beginning with p. 11.

ARITHMETIC.

PART I.

1. Four and two are ——.
2. Five less two are ——.
3. Three times two are ——.
4. Six is —— twos.
5. One half of six is ——.



6. Five and three are ——. 5 and 3 =
7. Seven less four are ——. 7 less 4 =
8. Four times two are ——. 4 times 2 =
9. Eight is —— twos. 8 is —— 2's.
10. One half of four is ——. $\frac{1}{2}$ of 4 =

11. William earned 5 cents and his brother earned 6 cents; together they earned —— cents.

12. James had 12 cents; he gave his sister 4 cents; he then had —— cents.

13. John paid 2 cents each for 5 pencils; for all he paid —— cents.

14. Harry has 10 cents; oranges cost 5 cents each; he can buy —— oranges.

15. Richard paid 8 cents for 2 lemons; one lemon cost —— cents.

One fourth of a foot.

1. *Twelve inches are one foot.*
2. Six inches are —— —— of a foot.
3. Three inches are —— —— of a foot.

4. One half of a foot and 2 inches =
5. One half of a foot less 2 inches =
6. Three times 2 inches are —— inches.
7. 2 inches are contained in 8 inches —— times.
8. One half of 6 inches is —— inches.

9. Mary's pencil is 3 inches long; Alice's pencil is 4 inches long; together they are —— inches long.

10. Jane had a pencil 8 inches long; she broke off a piece 2 inches long; what remained was —— inches long.

11. Think of a square. A square has —— sides. One side of a 2-inch square measures —— inches. All the sides of a 2-inch square together measure —— inches.

12. Ann had a piece of ribbon 10 inches long; she cut it into 2-inch pieces; there were —— pieces.

13. I am thinking of a square. It has —— equal sides. All its sides together measure 12 inches. It is a —— inch square.

1. Ten and two are ——. 10 and 3 =
2. Ten less two are ——. 10 less 4 =
3. Three times ten are ——. 5 times 10 =
4. Forty is —— tens. 60 is —— 10's.
5. One half of forty is ——. 10 is $\frac{1}{2}$ of ——.

6. Twenty and 10 are ——. 20 and 20 =
7. Twenty less 2 are ——. 30 less 2 =
8. Four times 10 are ——. 6 times 10 =
9. Seventy is —— tens. 50 is —— 10's.
10. One third of 30 is ——. $\frac{2}{3}$ of 30 =

11. A boy paid 2 dimes for a slate and 3 dimes for a book; for both he paid —— cents.

12. The price of Susie's book was 38 cents; she gave the salesman 4 dimes; she should receive in change —— cents.

13. At 10 cents a yard, 2 yards of ribbon cost —— cents; one half of a yard costs —— cents; two and one half yards cost —— cents.

14. For some railroad tickets I paid 60 cents; each ticket cost 10 cents; there were —— tickets.

15. For 4 melons James paid 40 cents; one melon cost —— cents. One fourth of 40 cents is —— cents.

(1) Read, and give sums. (2) Copy and add.

20	21	23	22	22	28
4	4	4	6	2	2

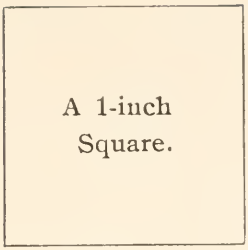
1. One foot is —— inches.
2. Two feet are 24 inches.
3. Three feet are 36 inches.
4. One yard is —— feet.
5. One yard is —— inches.
6. One half of a yard is ——.
7. One third of a yard is ——.
8. Two thirds of a yard are ——.

9. Six inches and 6 inches are —— inches.
10. One foot less 6 inches are —— inches.
11. Four times 3 inches are —— inches.
12. 3 inches are contained in 12 inches —— times.
13. One third of twelve inches is —— inches.

14. Two feet and 2 inches are —— inches.
15. One yard less 2 inches are —— inches.
16. Think of a line 6 feet long. Six feet are —— yards. Nine feet are —— yards.
17. One yard and 1 foot are —— feet.
18. One yard and 2 feet are —— feet.
19. Seven feet are —— yards and —— foot.
20. Three times 2 feet are —— feet, or —— yards.
21. Two 12's are ——. Three 12's are ——.

(1) Read, and give differences. (2) Copy and subtract.

26	28	29	25	27	30
4	3	6	4	7	2



1. Think of a 2-inch square. Think of a 2-inch square divided into 1-inch squares. A 2-inch square is equal to —— 1-inch squares.

2. Think of a 3-inch square. Think of a 3-inch square divided into 1-inch squares. A 3-inch square is equal to —— 1-inch squares.

3. Think of an oblong 1 inch wide and 4 inches long. Think of this oblong divided into 1-inch squares. Such an oblong is equal to —— 1-inch squares.

4. An oblong 2 inches wide and 4 inches long is equal to —— 1-inch squares.

5. An oblong 2 inches wide and 3 inches long is equal to —— 1-inch squares.

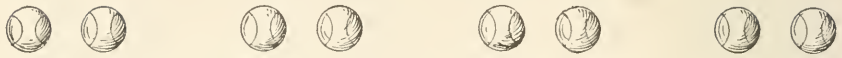
6. An oblong 2 inches wide and 5 inches long is equal to —— 1-inch squares.

7. One fourth of a 2-inch square =

8. One half of a 2-inch square =

(1) Read, and give products. (2) Copy and multiply.

20	12	21	32	34	35
2	2	2	2	2	2



1. Four times 2 balls are —— balls.
2. 2 balls are contained in 8 balls —— times.

3. Three times 3 tops are —— tops.
4. 3 tops are contained in 9 tops —— times.

★ ★ ★ ★ ★ ★ ★ ★

5. Two times 4 stars are —— stars.
6. 4 stars are contained in 8 stars —— times.

• • • • • • • • • • • •

7. Four times 3 dots are —— dots.
8. 3 dots are contained in 12 dots —— times.

9. Five times 2 eggs are —— eggs.
10. 2 eggs are contained in 10 eggs —— times.

11. Three times 4 hats are —— hats.
12. 4 hats are contained in 12 hats —— times.

(1) Read, and give quotients. (2) Copy and divide.

2 balls)12 balls — times

2 stars)20 stars — times

2)40 2)42 2)44 2)46 2)48

1. One half of 4 cents is —— cents.
2. Two cents are contained in 4¢ —— times.

3. One half of 6 cents is —— cents.
4. Two cents are contained in 6¢ —— times.

5. One half of 8 cents is —— cents.
6. Two cents are contained in 8¢ —— times.

7. One half of 10 cents is —— cents.
8. Two cents are contained in 10¢ —— times.

9. One half of 12 cents is —— cents.
10. Two cents are contained in 12¢ —— times.

11. One half of 20 cents is —— cents.
12. Two cents are contained in 20¢ —— times.

13. One half of 40 cents is —— cents.
14. Two cents are contained in 40¢ —— times.

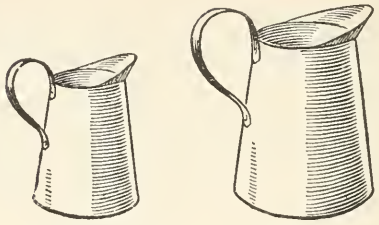
15. One half of 60 cents is —— cents.
16. Two cents are contained in 60¢ —— times.

17. One half of 80 cents is —— cents.
18. Two cents are contained in 80¢ —— times.

(1) Read, and give quotients. (2) Copy and divide.

2)12 cents	2)14 cents	2)20 cents
— cents	— cents	— cents

2)24¢ 2)26¢ 2)28¢ 2)80¢ 2)40¢



1 pint. 1 quart.

1. *Two pints are one quart.*
2. Six pints are —— quarts.
3. Two quarts are —— pints.
4. Six quarts are —— pints.
5. Four quarts are —— pints.
6. Four pints are —— quarts.
7. Ten pints are —— quarts.
8. Ten quarts are —— pints.
9. Mr. Smith sold 1 pint of milk to each of 4 customers; to all he sold —— quarts.
10. At 3 cents a pint, one quart of milk costs ——.
11. At 4 cents a quart, one pint of milk costs ——.
12. At 4 cents a quart, two quarts and one pint of milk cost —— cents.
13. 2 quarts are contained in 6 quarts —— times.
14. 1 pint is contained in 3 quarts —— times.

(1) Read, and give sums. (2) Copy and add.

28	28	28	38	38	38
3	4	5	2	3	4

●●●●●● ●● ●● ●●

1. One third of 6 balls is —— balls.
2. Two thirds of 6 balls are —— balls.

●●●●●●●●● ●●● ●●● ●●●

3. One third of 9 balls is —— balls.
4. Two thirds of 9 balls are —— balls.

5. Arrange 12 balls so that it will be easy to think the number of balls in one third of 12 balls, and the number of balls in two thirds of 12 balls.

6. One third of 12 balls is —— balls.
7. Two thirds of 12 balls are —— balls.

●●●● ●● ●● ○○

8. Four balls are two thirds of —— balls.

●●●●●● ●●● ●●● ○○○

9. Six balls are two thirds of —— balls.

10. Arrange 8 balls so that it will be easy to think the number of balls of which 8 balls are two thirds.

11. Eight balls are two thirds of —— balls.

12. $\frac{1}{3}$ of 6 is ——. $\frac{1}{3}$ of 9 is ——.
13. $\frac{1}{4}$ of 8 is ——. $\frac{1}{4}$ of 12 is ——.
14. $\frac{1}{2}$ of 10 is ——. 10 is $\frac{1}{2}$ of ——.
15. $\frac{1}{2}$ of 6 is ——. 6 is $\frac{1}{2}$ of ——.

(1) Read, and give differences. (2) Copy and subtract.

30	40	50	30	40	50
3	3	3	4	4	4

1. The sum of 7 and 4 is ——.
2. The sum of 20 and 6 is ——.
3. The sum of 21 and 4 is ——.
4. The sum of 32 and 4 is ——.
5. The sum of 43 and 2 is ——.

6. Peter and Harry together had 12 marbles; Harry had 7; Peter had ——.

7. The sum of two numbers is 8; one of the numbers is 5; the other number is ——.

8. Joseph has a new bicycle. There is a cyclometer on it. When Joseph had used the bicycle two days the cyclometer showed that he had ridden 11 miles; he rode 5 miles the first day; the second day he rode —— miles.

9. The sum of two numbers is 10; one of the numbers is 6; the other number is ——.

10. Joseph rode 8 miles in the morning and 4 miles in the afternoon; in all he rode —— miles.

11. Mary paid 6¢ for 2 thirds of a yard of ribbon; at the same rate, 1 yard would cost —— cents.

12. $\frac{1}{2}$ of 6 is ——. 6 is $\frac{1}{2}$ of ——.
13. $\frac{2}{3}$ of 6 are ——. 6 is $\frac{2}{3}$ of ——.
14. $\frac{1}{3}$ of 3 is ——. 3 is $\frac{1}{3}$ of ——.
15. $\frac{2}{3}$ of 9 are ——. 8 is $\frac{2}{3}$ of ——.

(1) Read, and give products.

25	35	45
2	2	2

(2) Copy and multiply.

21	22	23
3	3	3

1. The difference of 6 and 4 is ——.
2. The difference of 12 and 8 is ——.
3. The difference of 5 and 9 is ——.
4. The difference of 26 and 24 is ——.
5. The difference of 27 and 30 is ——.
6. The difference of 35 and 40 is ——.

7. The temperature at 9 o'clock in the morning was 65 degrees above zero; at noon it was 75; the difference was —— degrees.

8. The temperature inside the schoolroom was 70 degrees above zero; outdoors it was 50; the difference was —— degrees.

9. The temperature at noon was 80 degrees above zero; at 4 o'clock in the afternoon it was 10 degrees lower; at 4 o'clock it was ——.

10. The greater of two numbers is 90; their difference is 10; the less number is ——.

11. The temperature at 10 o'clock was 85 degrees above zero; at noon it was 10 degrees higher; at noon it was ——.

12. The less of two numbers is 55; their difference is 10; the greater number is ——.

(1) Read, and give quotients. (2) Copy and divide.

3 dollars)12 dollars
— times

4 cents)12 cents
— times

3)15 3)33 3)36 3)39 3)63

1. The product of 4 and 2 is ——.
2. The product of 6 and 2 is ——.
3. The product of 5 and 2 is ——.
4. The product of 3 and 4 is ——.
5. The product of 3 and 2 is ——.
6. The product of 10 and 2 is ——.
7. The product of 20 and 2 is ——.

8. I have an orchard in which there are four rows of trees; in each row there are 10 trees; in all there are —— trees. 4 tens are ——. 5 tens are ——.

9. The length of one side of a 3-inch square is —— inches; the length of all its sides together is —— inches. 4 threes are ——. 3 threes are ——. 2 threes are ——.

10. The product of two numbers is 8; one of the numbers is 2; the other number is ——.

11. The product of two numbers is 40; one of the numbers is 2; the other number is ——.

12. Ten and ten and ten are ——. Three tens are ——. The product of 3 and 10 is ——. Twenty is the product of 10 and ——. Forty is the product of 10 and ——.

(1) Read, and give quotients. (2) Copy and divide.

3)12 dollars
— dollars

3)15 dollars
— dollars

3)36 dollars
— dollars

3)18 3)39 3)60 3)63 3)66

1. The quotient of 6 divided by 2 is ——.
2. The quotient of 8 divided by 4 is ——.
3. The quotient of 10 divided by 2 is ——.
4. The quotient of 12 divided by 3 is ——.
5. The quotient of 12 divided by 6 is ——.
6. The quotient of 20 divided by 10 is ——.
7. The quotient of 40 divided by 4 is ——.

8. I have an orchard in which there are 60 trees; these trees are in 6 equal rows; in each row there are —— trees. Sixty divided by 6 equals ——.

9. Edward paid 60 cents for 6 pounds of nuts; one pound cost ——. One sixth of 60 is ——.

10. Byron sold papers for which he received 40 cents; he sold the papers at 2 cents each; he sold —— papers. Two cents are contained in 40 cents —— times.

11. One half of 12 is ——. 2 is contained in 12 —— times.

12. One half of 20 is ——. 2 is contained in 20 —— times.

13. One third of 12 is ——. 3 is contained in 12 —— times.

14. One half of 60 is ——. 2 is contained in 60 —— times.

(1) Read, and give sums. (2) Copy and add.

26	26	35	47	17	52
10	20	20	20	20	20

1. The sum of 6 and 2 is ——.
2. The difference of 6 and 2 is ——.
3. The product of 6 and 2 is ——.
4. The quotient of 6 divided by 2 is ——.

5. The sum of 40 and 20 is ——.
6. The difference of 40 and 20 is ——.
7. The product of 20 and 2 is ——.
8. The quotient of 20 divided by 2 is ——.

9. The sum of 30 and 20 is ——.
10. The difference of 30 and 20 is ——.
11. The product of 30 and 3 is ——.
12. The quotient of 30 divided by 3 is ——.

13. The sum of 27 and 3 is ——.
14. The difference of 27 and 3 is ——.
15. The product of 12 and 2 is ——.
16. The quotient of 12 divided by 2 is ——.

17. The sum of 30 and 5 is ——.
18. The difference of 30 and 5 is ——.
19. The product of 10 and 5 is ——.
20. The quotient of 10 divided by 5 is ——.

21. One half of 3 feet is ——.
22. One half of 5 apples is ——.
23. One half of 7 inches is ——.

(1) Read, and give differences. (2) Copy and subtract.

30	35	52	44	57	63
10	10	10	20	20	20

1. Six apples and 3 apples are —— apples.
2. Seven apples less 2 apples are —— apples.
3. Three times 2 apples are —— apples.
4. Three apples are contained in 9 apples ——.
5. One half of 7 apples is —— apples.

6. Eight cents and 3 cents are —— cents.
7. Nine cents less 2 cents are —— cents.
8. Four times 3 cents are —— cents.
9. Four cents are contained in 12 cents ——.
10. One third of 12 cents is —— cents.

11. Twenty trees and 7 trees are —— trees.
12. Twenty trees less 2 trees are —— trees.
13. Two times 20 trees are —— trees.
14. Two trees are contained in 40 trees ——.
15. One half of 60 trees is —— trees.

16. Sixty-eight degrees and 4 degrees are ——.
17. Sixty-eight degrees less 4 degrees are ——.
18. Four times 20 degrees are —— degrees.
19. Two degrees are contained in 12 degrees —— ——.
20. One third of 30 degrees is —— degrees.

21. $\frac{1}{2}$ of 4 is ——. 4 is $\frac{1}{2}$ of ——.
22. $\frac{1}{2}$ of 3 is ——. 3 is $\frac{1}{2}$ of ——.
23. $\frac{1}{2}$ of 5 is ——. 5 is $\frac{1}{2}$ of ——.

(1) Read, and give products.

31	32	33
3	3	3

(2) Copy and multiply.

11	12	13
3	3	3

1. In 6 there are —— twos.
2. In 7 there are —— twos and ——.
3. In 8 there are —— twos.
4. In 9 there are —— twos and ——.
5. In 10 there are —— twos.
6. In 11 there are —— twos and ——.

7. In 8 there are —— fours.
8. In 9 there are —— fours and ——.
9. In 10 there are —— fours and ——.
10. In 11 there are —— fours and ——.
11. In 10 there are —— fives.
12. In 12 there are —— fives and ——.

13. In 9 there are —— threes.
14. In 11 there are —— threes and ——.
15. In 23 there are —— tens and ——.
16. In 35 there are —— tens and ——.
17. In 21 there are —— twos and ——.
18. In 41 there are —— twos and ——.

19. One half of 20 is ——. $\frac{1}{2}$ of 21 =
20. One half of 40 is ——. $\frac{1}{2}$ of 41 =
21. One half of 50 is ——. $\frac{1}{2}$ of 51 =
22. One half of 60 is ——. $\frac{1}{2}$ of 61 =

(1) Read, and give quotients.

4 apples)12 apples
— times

(2) Copy and divide.

5 cents)25 cents
— times

5)20 5)30 5)35 3)69 2)64

1. John had 22 cents, and his mother gave him 5 cents more; he then had —— cents.

2. William had 36 cents; he spent 5 cents; he then had —— cents.

3. David paid 20 cents each for 2 books; the books cost —— cents.

4. George paid 50 cents for some tablets; the price of the tablets was 10 cents each; there were —— tablets.

5. Harry's new drawing-pencils cost 40 cents; there were 4 of them; each pencil cost —— cents.

6. In one coop there were 21 little chickens; in another coop there were 8; in both there were —— chickens.

7. Susan had 36 chickens; 4 of them died; she then had —— chickens.

8. In each of three coops there were 20 chickens; in all there were —— chickens.

9. Mrs. Brown has 36 chickens equally divided among 3 mother hens; each hen cares for —— chickens.

10. Mrs. Harris had 30 chickens; she divided them equally and put them into 3 coops; in each coop there were —— chickens.

(1) Read, and give quotients. (2) Copy and divide.

2)$14	2)$42	2)$44	2)$46	2)$48
2)24	2)26	2)28	2)62	2)64

1. If one quart of milk is worth 6 cents, 1 pint is worth —— cents.

2. When milk costs 4 cents a quart, 1 pint costs —— cents; 1 quart and 1 pint cost —— cents; 2 quarts cost —— cents; 2 quarts and 1 pint cost —— cents.

3. When milk costs 6 cents a quart, 9 cents will pay for ————.

4. When milk costs 4 cents a quart, 6 cents will pay for ————; 10 cents will pay for ————; 12 cents will pay for ————.

5. When milk costs 6 cents a quart, 12 cents will pay for ————.

6. Herbert paid 6 cents for a ball, and half as many cents for an orange; the orange cost —— cents; the orange and the ball together cost ————. The sum of 6 and 3 is ——.

7. Four two-cent stamps cost —— cents.

8. Two four-cent stamps cost —— cents.

9. George had 11 cents; he bought 3 two-cent stamps; he then had —— cents.

10. My pen-holder cost 8 cents; my pencil cost half as much as my pen-holder; my pencil cost —— cents; my pen-holder and pencil together cost —— cents.

(1) Read, and give sums.

30	40	20	50	60	70
15	12	17	14	13	18

(2) Copy and add.

1. William had six cents; he paid one third of his money for a tablet; he then had —— cents.

2. Jane had six cents; she paid two thirds of her money for an orange; she then had —— cents.

3. Henry earned some money; he spent one half of what he earned and had 5 cents left; he earned —— cents; he spent —— cents.

4. James earned some money; he spent two thirds of what he earned and had 3 cents left; he earned —— cents; he spent ——cents.

5. Peter earned some money; he spent one third of what he earned and had 6 cents left; he earned —— cents; he spent —— cents.

6. A hen came off her nest with a nice brood of chicks; but there came a rain storm and three fourths of them were drowned; the poor hen then had only three chicks; she came off her nest with —— chicks; the rain killed —— chicks.

7. Mary had a whole family of dolls; she gave away three fourths of them and had only 2 dolls left; before she gave any away she had —— dolls; she gave away —— dolls.

(1) Read, and give differences. (2) Copy and subtract.

30	40	50	30	40	50
12	12	12	13	13	13
35	45	55	35	45	55
12	12	12	13	13	13

1. One half of 4 apples is —— apples.
2. Four apples are one half of —— apples.

3. One half of 6 oranges is —— oranges.
4. Six oranges are one half of —— oranges.

5. One half of three toothpicks is ——.
6. Three toothpicks are one half of ——.

7. One half of 5 inches is —— inches.
8. Five inches are one half of —— inches.

9. One half of 7 square inches is ——.
10. One half of 8 square inches is ——.
11. One half of 9 square inches is ——.
12. One half of 10 square inches is ——.
13. One third of three blocks is —— block.
14. Three blocks are one third of —— blocks.

15. One third of 6 balls is —— balls.
16. One third of 9 balls is —— balls.
17. One third of 12 balls is —— balls.
18. One fourth of 8 boys is —— boys.
19. One fourth of 12 boys is —— boys.
20. One fifth of 10 girls is —— girls.
21. Two fifths of 10 girls are —— girls.
22. One sixth of 12 hats is —— hats.

(1) Read, and give products. (2) Copy and multiply.

30	40	50	60	20	30
2	2	2	2	3	3

1. I obtain a sum by ——.
2. I obtain a difference by ——.
3. I obtain a product by ——.
4. I obtain a quotient by ——.

5. The answer in addition is a ——.
6. The answer in subtraction is a ——.
7. The answer in multiplication is a ——.
8. The answer in division is a ——.

9. The sum of 8 and 2 is ——.
10. The difference of 8 and 2 is ——.
11. The product of 8 and 2 is ——.
12. The quotient of 8 divided by 2 is ——.

13. When I put two numbers together, I ——.
14. When I take one number from another, I ——.
15. When I take a number a certain number of times, I ——.
16. When I find how many times one number is contained in another, I ——.
17. When I find a certain part of a number, as one half of it, or one third of it, or one fourth of it, I ——.

(1) Read, and give quotients. (2) Copy and divide.

$2)$12	$2)$20	$2)$24	$2)$26	$2)$28
2)14	2)22	2)18	2)40	2)42

1. $2\overline{)6}$

Two apples are contained in 6 apples —— ——.
One half of 6 apples is —— ——.

2. $3\overline{)12}$

Three dollars are contained in 12 dollars ——.
One third of 12 dollars is —— ——.

3. $4\overline{)12}$

Four cents are contained in 12 cents —— ——.
One fourth of 12 cents is —— ——.

4. $5\overline{)10}$

Five oranges are contained in 10 oranges ——.
One fifth of 10 oranges is —— ——.

5. $6\overline{)12}$

Six inches are contained in 12 inches —— ——.
One sixth of 12 inches is —— ——.

6. $4\overline{)40}$

Four cents are contained in 40 cents —— ——.
One fourth of 40 cents is —— ——.

7. $2\overline{)24}$

Two peaches are contained in 24 peaches ——.
One half of 24 peaches is —— ——.
One third of 24 peaches is —— ——.

(1) Read, and give quotients. (2) Copy and divide.

$2\overline{)22}$ ft. $3\overline{)36}$ ft. $2\overline{)44}$ ft. $3\overline{)66}$ ft. $2\overline{)28}$ ft.

1. One half of 1 quart is —— ——.
2. One half of 1 foot is —— inches.
3. One half of 1 yard is —— ——.
4. One half of 1 dollar is —— cents.
5. One half of 1 dime is —— ——.
6. One half of 7 quarts is ————.
7. One half of a 2-inch square is ————.
8. One half of a 3-inch square is ————.
9. One half of 5 feet is ————.
10. One half of an oblong 2 inches by 4 inches is ————.
11. Two quarts are one third of —— ——.
12. Four inches are one third of —— ——.
13. One foot is one third of —— ——.
14. Three inches are one fourth of —— ——.
15. Twenty-five cents are one fourth of ——.
16. One pint is one fourth of —— ——.
17. One dime is one third of —— ——.
18. One quart is one fourth of —— ——.

19. $\frac{1}{2}$ of 4 is ——. 4 is $\frac{1}{2}$ of ——.
20. $\frac{1}{3}$ of 6 is ——. $\frac{1}{3}$ of 9 is ——.
21. $\frac{1}{4}$ of 8 is ——. $\frac{1}{4}$ of 12 is ——.
22. $\frac{1}{2}$ of 10 is ——. 10 is $\frac{1}{2}$ of ——.
23. $\frac{1}{2}$ of 12 is ——. 12 is $\frac{1}{2}$ of ——.

(1) Read, and give sums. (2) Copy and add.

30	30	30	20	20	20
22	23	24	23	24	25

1.	Two is one fourth of ——.	2 is $\frac{1}{3}$ of ——.
2.	Four is —— —— of eight.	4 is $\frac{1}{3}$ of ——.
3.	Six is —— —— of eight.	6 is $\frac{1}{2}$ of ——
4.	Three is one fourth of ——.	3 is $\frac{1}{2}$ of ——.
5.	Six is —— —— of twelve.	5 is $\frac{1}{2}$ of ——.
6.	Nine is —— —— of twelve.	8 is $\frac{2}{3}$ of ——.

7.	Three times 2 are ——.	3 times 3 =
8.	Three times 4 are ——.	4 times 2 =
9.	Four times 3 are ——.	6 times 2 =
10.	Two times 6 are ——.	2 times 5 =
11.	Two times 4 are ——.	2 times 3 =
12.	Two times 2 are ——.	5 times 2 =

FOR DRILL IN ADDING.

6	5	6	4	3	7	8	7
6	5	1	2	1	5	2	1
2	3	4	8	9	2	5	5
1	2	3	1	3	2	1	2
8	6	6	3	5	5	6	4
4	4	2	3	4	3	3	1

6	4	8	9	7	7	9	7	1
5	4	3	2	4	3	1	2	1

(1) Read, and give differences. (2) Copy and subtract.

20	30	40	50	60	70
14	14	14	15	15	15

1. Imagine 12 marks on the blackboard; then imagine that you erase half of them; then imagine that you erase one half of the remainder. How many marks do you now seem to see upon the blackboard?

2. Imagine a 4-inch square drawn upon the blackboard; imagine it divided into equal parts by a vertical line; also imagine a horizontal line that would divide the square into two equal parts. Into how many equal parts does the square now seem to be divided? Each part is what kind of a square? How many 2-inch squares in a 4-inch square?

3. Imagine a 1-inch square drawn upon your slate. It has how many sides? Each side is how long? How far is it around a 1-inch square?

4. Imagine a 2-inch square drawn upon the blackboard. It has how many sides? Each side is how long? How far is it around a 2-inch square?

5. Imagine a 3-inch square drawn upon the blackboard. It has —— sides. Each side is —— inches long. How far is it around a 3-inch square?

6. How far is it around a 4-inch square?

(1) Read, and give products. (2) Copy and multiply.

20	21	22	20	30	31
4	4	4	5	4	4

1. Imagine that you have a stick of candy 1 foot long; imagine that you give one third of it to your brother; imagine that you break the remainder into two equal pieces. How many inches long is each piece?

2. Imagine an oblong bounded by two vertical lines each 1 inch long, and two horizontal lines each 3 inches long. How many such oblongs would be equal to a 3-inch square?

3. Imagine four 1-inch squares cut from paper. So arrange them that they together will make a square. What kind of a square is it?

4. Imagine nine 1-inch squares cut from paper. So arrange them that they together will make a square. What kind of a square is it?

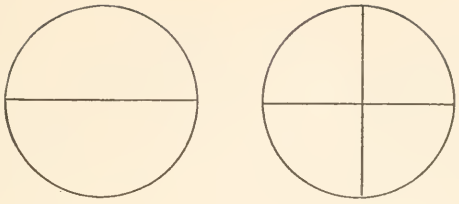
5. Imagine an oblong 1 inch wide and 3 inches long. Imagine this oblong divided into 1-inch squares. How many 1-inch squares do you seem to see?

6. Imagine eight 1-inch squares cut from paper. So arrange them that they together will make an oblong 2 inches wide. How long is the oblong?

7. How many inches around an oblong 4 inches long and 2 inches wide?

(1) Read, and give quotients. (2) Copy and divide.

$3¢)\underline{60¢}$ $3¢)\underline{66¢}$ $3¢)\underline{69¢}$ $4¢)\underline{80¢}$ $4¢)\underline{88¢}$



1. In one whole there are —— halves.
2. In one whole there are —— fourths.
3. In one half there are —— fourths.
4. One half and 1 fourth are —— fourths.
5. One half less 1 fourth is —— fourth.
6. One half of one half is one —— ——.

7. Jane ate one half of a pie; Harold ate one fourth of a pie; together they ate —— of a pie.

8. Webb had one half of a pie; he gave one fourth of a pie to his sister; he then had —— —— of a pie.

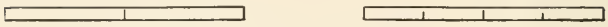
9. Robert had one fourth of a pie; Arthur had three times as much; Arthur had —— —— of a pie.

10. Mrs. Johnson divided a pie equally among some children, giving to each child one fourth of a pie; there were —— children.

11. Mrs. Clark divided one half of a pie equally between two children; each child received —— —— of a pie.

(1) Read, and give quotients. (2) Copy and divide.

$2\overline{)60¢}$ $3\overline{)60¢}$ $4\overline{)80¢}$ $2\overline{)84¢}$ $4\overline{)84¢}$



1. One inch is —— half-inches.
2. One inch is —— fourth-inches.
3. One half-inch is —— fourth inches.
4. Two half-inches are —— inch.
5. Four fourth-inches are —— inch.
6. Two fourth-inches are —— —— of an inch.
7. One half-inch and 1 fourth-inch are —— fourth-inches.
8. One half-inch less 1 fourth-inch is ——.
9. Two times 1 fourth-inch are —— fourth-inches, or —— half-inch.
10. One fourth-inch is contained in one half-inch —— times.

11. Alice's pencil is two and one half inches long; Jane's pencil is two and one fourth inches long; together they are —— —— —— —— inches long.
12. Sarah's pencil is two and one fourth inches long; Mary's is three times as long; Mary's pencil is —— —— —— —— inches long.
13. Laura had a pencil two and one half inches long; she broke it into pieces, each piece being one half-inch long; there were —— pieces.

(1) Read, and give sums. (2) Copy and add.

2 fourths	$2\frac{2}{4}$	$23\frac{2}{4}$	$3\frac{1}{2}$	$24\frac{1}{2}$
1 fourth	$2\frac{1}{4}$	$10\frac{1}{4}$	$3\frac{1}{2}$	$10\frac{1}{2}$

1. One dollar is equal in value to —— half-dollars.

2. One dollar is equal in value to —— fourth-dollars.

3. One half-dollar is equal in value to —— fourth-dollars. A fourth-dollar is sometimes called a "quarter," or a *quarter of a dollar*.

4. One half of a dollar and one fourth of a dollar are —— fourths of a dollar.

5. One half of a dollar less one fourth of a dollar is —— —— of a dollar.

6. Four times one fourth of a dollar equals —— fourths of a dollar, or —— dollar.

7. One fourth of a dollar is contained in one half of a dollar —— times.

8. One half of one half of a dollar is —— —— of a dollar.

(1) Read, and give differences. (2) Copy and subtract.

3 fourths	$3\frac{3}{4}$	$25\frac{3}{4}$	$8\frac{1}{2}$	$27\frac{1}{2}$
1 fourth	$1\frac{1}{4}$	$10\frac{1}{4}$	$5\frac{1}{2}$	$10\frac{1}{2}$

1. One half of a foot and one fourth of a foot are —— inches.

2. One half of a dollar and one fourth of a dollar are —— cents.

3. One half of a pie and one fourth of a pie are —— fourths of a pie.

4. One half of an inch and one fourth of an inch are —— fourths of an inch.

5. One half of a square inch and one fourth of a square inch are —— fourths of a square inch.

6. Fred bought a knife; the price was half a dollar; he gave the salesman one dollar; Fred should receive in change ————.

7. At a quarter of a dollar a pound, 4 pounds of coffee cost ————.

8. I paid half a dollar for butter at one fourth of a dollar a pound; I bought —— pounds.

9. Bessie had a pencil two and one half inches long; she broke it into two equal parts; each part was —— —— —— —— inches long.

10. One half of $2\frac{1}{2}$ inches is ————.

Add.	Subtract.	Multiply.	Divide.
1 fourth	3 fourths	2 fourths	2)4 fourths
3 fourths	1 fourth	2	

(1) Read, and give products. (2) Copy and multiply.

3 fourths	$5\frac{1}{4}$	$23\frac{1}{4}$	$3\frac{1}{2}$	$23\frac{1}{2}$
2	2	2	2	2

1. *There are seven days in a week.*
2. Eight days are 1 week and —— day.
3. Nine days are 1 week and —— days.
4. Twelve days are 1 week and —— days.
5. Eleven days are 1 week and —— days.
6. Ten days are 1 week and —— days.

7. One week and 2 days are —— days.
8. One week and 5 days are —— days.
9. One week and 3 days are —— days.
10. One week and 4 days are —— days.

11. One dime and 1 cent are —— cents.
12. Twelve cents and 1 dime are —— cents.
13. Two dimes are —— cents. 3 dimes =
14. Six dimes are —— cents. 4 dimes =
15. Two dimes and 2 cents are —— cents.
16. Two dimes and 5 cents are —— cents.

17. Two quarts and 1 pint are —— pints.
18. Four quarts and 1 pint are —— pints.
19. Five pints are —— quarts and 1 pint.
20. Nine pints are —— quarts and 1 pint.

21. Two yards and 1 foot are —— feet.
22. Two yards and 2 feet are —— feet.

(1) Read, and give quotients. (2) Copy and divide.

3 ft.)36 ft. 2 ft.)24 ft. 4 ft.)48 ft. 5 ft.)25 ft.

— times

1. If Harry steps 2 feet at each step, how many steps will he take in walking 12 feet? 20 feet? 40 feet? 100 feet?

2. If Mary steps $1\frac{1}{2}$ feet at each step, how many steps will she take in walking 3 feet? 6 feet? 9 feet? 12 feet?

3. If Harry's father steps $2\frac{1}{2}$ feet at each step, how many steps will he take in walking 5 feet? 10 feet? 15 feet? 20 feet?

4. One half of seven feet is ———— feet.

5. One half of nine feet is ———— feet.

6. One half of eleven feet is ———— feet.

7. One third of six feet is —— feet.

8. One third of seven feet is ———— feet.

9. One third of nine feet is —— feet.

10. One third of ten feet is ———— feet.

(1) Read, and give quotients. (2) Copy and divide.

2)24 feet 2)25 feet 2)26 feet 2)27 feet

2)44 feet 2)45 feet 2)46 feet 2)47 feet

PART II.

9	8	7
4	5	6
13	13	13

1. Nine and 4 are ——. 8 and 4 are ——.
2. Seven and 5 are ——. 8 and 5 are ——.
3. Nine and 3 are ——. 6 and 5 are ——.
4. Seven and 6 are ——. 7 and 4 are ——.

5. Thirteen less 9 are ——. 13 less 7 are ——.
6. Thirteen less 8 are ——. 13 less 4 are ——.
7. Thirteen less 6 are ——. 13 less 5 are ——.

8. Twelve units, or ones, make one dozen.
9. Thirteen is one dozen and ——.
10. Thirteen inches are 1 foot and ——.
11. Thirteen cents are 1 dime and —— cents.
12. Thirteen days are one week and —— days.
13. Thirteen pints are 6 quarts and —— pint.
14. Thirteen feet are 4 yards and —— foot.

Copy and add:

25	26	27	28	26	28
25	26	25	23	24	24

1. Seven quarts of milk and 6 quarts of milk are —— quarts of milk.

2. Eight pounds of sugar and 4 pounds of sugar are —— pounds of sugar.

3. Twelve loads of gravel less 7 loads of gravel are —— loads of gravel.

4. Thirteen pairs of horses less 6 pairs of horses are —— pairs of horses.

5. Three times 4 books are —— books.

6. Two times 6 birds are —— birds.

7. Three inches are contained in 12 inches —— times.

8. Three inches are contained in 13 inches —— times with one inch remainder.

9. One third of 12 inches is —— inches.

10. One third of 13 inches is ————.

11. Four inches are contained in 12 inches —— times.

12. Four inches are contained in 13 inches —— times with —— inch remainder.

13. One fourth of 12 inches is —— inches.

14. One fourth of 13 inches is ————.

15. Five inches are contained in 10 inches ——.

16. Five inches are contained in 13 inches —— times with —— inches remainder.

Copy and subtract:

42	52	62	72	82	92
16	16	16	16	16	16

1. The line A B is —— —— long.

2. The line C D is —— inches long.

3. How many inches longer is C D than A B? C D is —— inches longer than A B.

4. A B and C D together are —— inches long.

5. C D is how many times as long as A B? C D is —— times as long as A B.

6. A B is equal to what part of C D? A B is equal to —— —— of C D.

---

7. The sum of 8 and 5 is ——.

8. The difference of 8 and 5 is ——.

9. The product of 40 and 2 is ——.

10. The quotient of 8 divided by 2 is ——.

11. The sum of two numbers is 13; one of the numbers is 9; the other number is ——.

12. The difference of two numbers is 5; the greater number is 13; the less number is ——.

13. The difference of two numbers is 4; the less number is 9; the greater number is——.

Copy and multiply:

26	36	46	25	24	15
2	2	2	3	3	3

1. Mary had 13 canaries; she sold 8 of them; she then had —— canaries.

2. Henry lives 9 miles north of Aurora; James lives 4 miles south of Aurora; from Henry's home to James's home it is —— miles.

3. William had 13 cents; he bought two oranges at 5 cents each; he then had —— cents.

4. A ton of coal cost 6 dollars; a cord of wood cost 4 dollars; the coal cost —— dollars more than the wood; the wood and coal together cost —— dollars.

5. Robert is 8 years old, and his sister is 5 years older than he is; Robert's sister is —— years old.

6. John gathered 13 roses and gave 6 of them to his sister; he kept —— roses.

7. One fourth of 8 inches is —— inches.

8. One fourth of 9 inches is —— inches.

9. One half of 13 inches is ————.

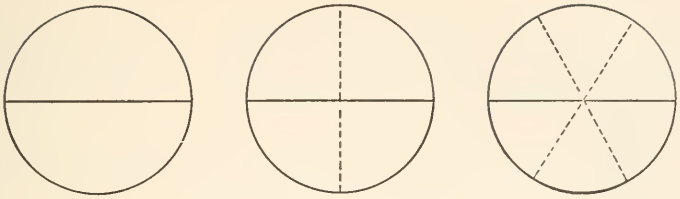
10. If one barrel of apples costs $\$2\frac{1}{2}$, two barrels cost ——; three barrels cost ——; four barrels cost ——.

11. If one ton of coal is worth $\$6\frac{1}{2}$, two tons are worth ————.

12. If one cord of wood is worth $\$4\frac{1}{2}$, two cords are worth ——.

Copy and divide:

$\$2)\underline{\$30}$ $\$2)\underline{\$50}$ $\$2)\underline{\$70}$ $\$2)\underline{\$90}$

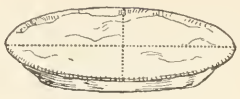


1. One whole is —— fourths.
2. One whole is —— sixths.
3. One half is how many fourths? One half is —— fourths.
4. One half is how many sixths? One half is —— sixths.
5. One half and one fourth are —— fourths.
6. One half and one sixth are —— sixths.
7. One half less one fourth is —— fourth.
8. One half less one sixth are —— sixths.
9. One half less two sixths is —— sixth.
10. Two times one fourth are —— fourths.
11. Two times one sixth are —— sixths.
12. Two times two sixths are —— sixths.
13. Three times two sixths are —— sixths.
14. One fourth is contained in 1 half —— times.
15. One sixth is contained in 1 half —— times.
16. One half of one half is —— ——.
17. One third of one half is —— ——.

Copy and divide:

2)$30 2)$50 2)$70 2)$90

— dollars


1. One half of a pie and one fourth of a pie are —— fourths of a pie.

2. One half of a pie and one sixth of a pie are —— sixths of a pie.

3. One half of a pie less one fourth of a pie is —— fourth of a pie.

4. One half of a pie less one sixth of a pie are —— sixths of a pie.

5. Three times 2 sixths of a pie are ————.

6. Two sixths of a pie are contained in one whole pie —— times.

7. One third of one half of a pie is ————.

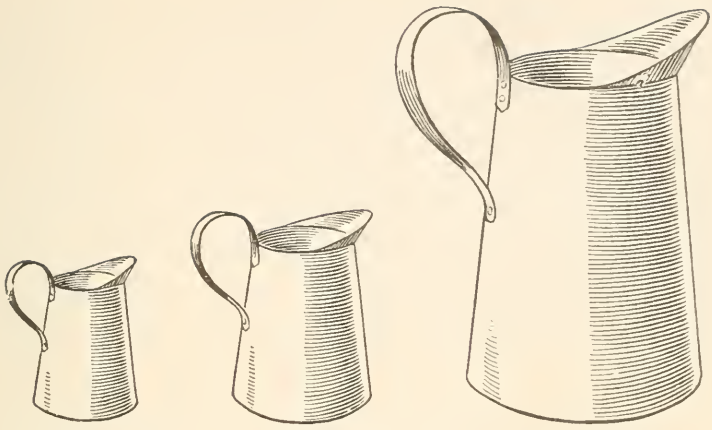
8. Webb had one half of a pie; he gave one sixth of a pie to his sister; he then had —— —— of a pie.

9. Mrs. Johnson divided a pie equally among some children, giving to each child one sixth of a pie; there were —— children.

10. Mrs. Clark divided one half of a pie equally among three children; each child received —— —— of a pie.

Copy and add:

125	127	126	129	128
15	16	14	11	14



1 pint. 1 quart. 1 gallon.

1. *Four quarts are one gallon.*
2. Eight quarts are —— gallons.
3. Twelve quarts are —— gallons.
4. Two gallons are —— quarts.
5. Two quarts are —— —— of a gallon.
6. Three quarts are —— —— of a gallon.
7. Five quarts are —— and —— —— gallons.
8. Six quarts are —— and —— —— gallons.
9. Seven quarts are —— and —— —— gallons.
10. At 5 cents a quart, one half-gallon of milk costs —— cents.
11. At 12 cents a gallon, two quarts of milk cost —— cents.

Copy and subtract:

140	140	140	130	130
15	16	17	18	19

1. One quart and one pint are —— pints.
2. One gallon and one quart are —— quarts.
3. One foot and one inch are —— inches.
4. One yard and one foot are —— feet.
5. One dime and one cent are —— cents.
6. One half and one fourth are —— fourths.
7. One half and one sixth are —— sixths.
8. One nickel and one cent are —— cents.

9. At 40 cents a gallon, two quarts of syrup cost —— cents.

10. At 20 cents a quart, one half-gallon of lard oil costs —— cents.

11. At 12 cents a gallon, one quart of kerosene costs —— cents.

12. At 2 cents a quart, one gallon of skimmed milk costs —— cents.

13. Will Blake carried to Mr. Jones a pint of milk each day for two weeks; in all he carried —— pints, or —— quarts, or one gallon and —— quarts.

14. Mrs. Bean buys two quarts of milk each day, for which she pays 5 cents a quart; each day the milk costs —— cents; for one week the milk costs —— cents.

Copy and multiply:

126	136	146	125	124
2	2	2	3	3

1. Nine books and 4 books are —— books.

2. Six apples and five apples are —— apples.

3. My book is —— inches wide.

4. If I should draw an oblong 3 inches wide and 4 inches long, and then divide it into 1-inch squares, there would be —— rows of squares, and in each row there would be —— squares. An oblong 3 inches by 4 inches contains —— square inches.

5. Three times 4 square inches are ————.

6. Four times 3 square inches are ————.

7. Jane had a piece of ribbon 13 inches long; she cut from it pieces 3 inches long; when she had cut off 4 pieces, she had —— —— left.

8. Byron pays 2 cents each for oranges, and sells them for 4 cents each; on 1 orange he gains —— cents; on 6 oranges he gains —— cents.

9. Harry pays 10 cents a dozen for eggs and sells them at 13 cents a dozen; on 1 dozen he gains —— cents; on 4 dozen he gains —— cents.

10. Ten days are one week and —— days.

11. To-day is Monday. Seven days from to-day will be ——. Eight days from to-day will be ——.

12. An old hen sat upon 13 eggs; all the eggs hatched except 4; there were —— chickens.

Copy and divide:

$2)\$32 \qquad \$2)\$52 \qquad \$2)\$72 \qquad \$2)\$92$

1. Howard has a string 2 and 1 half feet long; David has a string 2 and 1 fourth feet long; together the strings are —— and —— fourths feet long.

2. Draw an oblong 2 and 1 half inches wide; make it twice as long as it is wide; it will be —— inches long.

3. The teacher bought 2 and 1 half yards of ribbon; she cut it into pieces 1 fourth of a yard long; there were —— pieces.

4. Mary had a stick of molasses candy 1 and 1 half feet long; she cut it into pieces 1 sixth of a foot long; there were —— pieces.

5. One half of 2 and 1 half inches is ————.

6. One third of 6 and 1 half inches is ————.

7. Ellen had a piece of ribbon 1 half of a yard long; Sarah had a piece 1 sixth of a yard long; together they had —— —— of a yard.

8. Emma lives 1 half of a mile north of the schoolhouse; Eva lives one fourth of a mile south of the schoolhouse; from Emma's home to Eva's home it is —— —— of a mile.

9. The cyclometer on Willie's bicycle showed that he had ridden 10 and 1 half miles; James had ridden twice as far; James had ridden —— miles.

Copy and divide:

2)$32 2)$52 2)$72 2)$92

9	8	7	
5	6	7	7 twos are 14
14	14	14	2 sevens are 14

1. Nine and 5 are ——. 8 and 5 are ——.
2. Seven and 6 are ——. 7 and 7 are ——.
3. Seven and 5 are ——. 8 and 6 are ——.

4. Fourteen less 9 are ——. 14 less 7 =
5. Fourteen less 5 are ——. 14 less 8 =
6. Fourteen less 6 are ——. 14 less 10 =
7. Fourteen less 12 are ——. 14 less 11 =
8. Fourteen less 4 are ——. 14 less 2 =
9. 14 is —— 7's. 14 is —— 2's.
10. Fourteen is one dozen and ——.
11. Fourteen inches are 1 foot and —— inches.
12. Fourteen cents are 1 dime and —— cents.
13. Fourteen days are —— weeks.
14. Fourteen pints are —— quarts.
15. Fourteen quarts are —— pints.
16. Fourteen feet are 3 yards and —— feet.
17. Fourteen quarts are 3 gallons and —— quarts.
18. Fourteen eggs are 1 dozen and —— eggs.
19. Fourteen cents are 2 nickels and —— cents.
20. Fourteen sixths are 2 wholes and ————.

Copy and add:

135	132	134	137	136
25	28	36	25	26

1. Eight gallons of milk and 6 gallons of milk are —— gallons of milk.

2. Nine pairs of ponies and 4 pairs of ponies are —— pairs of ponies.

3. Fourteen loads of hay less 9 loads of hay are —— loads of hay.

4. Fourteen boxes of berries less 8 boxes of berries are —— boxes of berries.

5. Two times 7 marbles are —— marbles.

6. Seven times 2 horses are —— horses.

7. 7 inches are contained in 14 inches ——.

8. 2 inches are contained in 14 inches ——.

9. 6 inches are contained in 14 inches —— times with a remainder of —— inches.

10. 5 inches are contained in 14 inches —— times with a remainder of —— inches.

11. 4 inches are contained in 14 inches —— times with a remainder of —— inches.

12. 3 inches are contained in 14 inches —— times with a remainder of —— inches.

13. One half of 14 inches is —— inches.

14. One seventh of fourteen inches is —— inches.

15. Three sevenths of 14 inches are —— inches.

16. Two sevenths of 14 inches are —— inches.

17. Five sevenths of 14 inches are —— inches.

Copy and subtract:

150	150	150	150	150
25	27	24	28	23

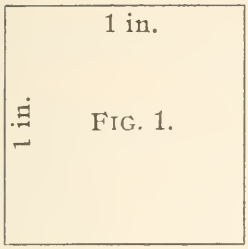


FIG. 1.

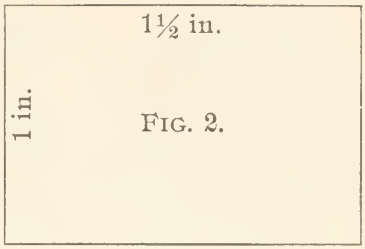


FIG. 2.

1. *The perimeter of a figure is the distance around it.*

2. The perimeter of a 1-inch square is —— inches.

3. The perimeter of a 2-inch square is —— inches.

4. The perimeter of a 3-inch square is —— inches.

5. The perimeter of Fig. 2, at the beginning of this page, is —— inches.

6. The sum of 9 and 5 is ——.

7. The difference of 14 and 9 is ——.

8. The product of 7 and 2 is ——.

9. The quotient of 140 divided by 2 is ——.

10. The sum of two numbers is 14; one of the numbers is 8; the other number is ——.

11. The difference of two numbers is 4; the less number is 10; the greater number is ——.

12. The difference of two numbers is 5; the greater number is 14; the less number is ——.

Copy and multiply:

127	137	147	227	237
2	2	2	2	2

1. A hen had 14 chickens; a hawk killed 6 of them; she then had —— chickens.

2. Peter lives 5 miles west of Aurora; his cousin lives 14 miles west of Aurora; from Peter's home to his cousin's it is —— miles. Peter lives —— of his cousin.

3. At 7 cents each, 2 melons cost —— cents.

4. Charles pays 3 cents a bag for pop-corn and sells it at 5 cents a bag; on one bag he gains —— cents; on three bags he gains —— cents.

5. When oranges cost 2 cents each, for 14 cents I can buy —— oranges.

6. Willie paid 70 cents each for two books; for both he paid ————.

7. I paid 1 dollar and 20 cents (120¢) for 2 yards of lace; one yard cost —— cents.

8. One fifth of 10 inches is —— inches.

9. One fifth of 11 inches is —— inches.

10. One fifth of 12 inches is —— inches.

11. If one barrel of flour costs $\$3\frac{1}{2}$, two barrels cost ——; three barrels cost ——; four barrels cost ——.

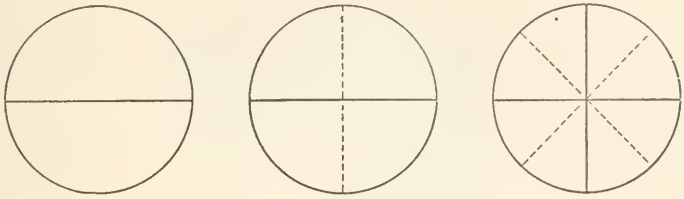
12. If one ton of coal is worth $\$6\frac{1}{4}$, two tons are worth ——.

13. Two times $5\frac{1}{2}$ are ——. 2 times $5\frac{1}{4}$ =

Copy and divide:

$2¢)\underline{34¢}$ $2¢)\underline{54¢}$ $2¢)\underline{74¢}$ $2¢)\underline{94¢}$

—— times



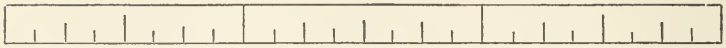
1. One whole is —— eighths.
2. One half is —— eighths.
3. One fourth is —— eighths.
4. Three fourths are —— eighths.
5. One half and one eighth are —— eighths.
6. One fourth and one eighth are —— eighths.
7. One half and two eighths are —— eighths.
8. One fourth and two eighths are —— eighths.
9. One half and three eighths are —— eighths.

10. One half less one eighth are —— eighths.
11. One fourth less one eighth is —— eighth.
12. One half less three eighths is —— eighth.

13. Two times one eighth are —— eighths.
14. Two times two eighths are —— eighths.
15. Two times three eighths are —— eighths.
16. One eighth is contained in one half —— times.
17. One eighth is contained in one fourth —— times.
18. One half of one fourth is —— eighth.

Copy and divide:

2)34¢ 2)54¢ 2)74¢ 2)94¢



1. One half of an inch and one eighth of an inch are —— eighths of an inch.

2. One fourth of an inch and one eighth of an inch are —— eighths of an inch.

3. One inch less one eighth of an inch are —— eighths of an inch.

4. One half of an inch less one eighth of an inch are —— eighths of an inch.

5. One fourth of an inch less one eighth of an inch is —— eighth of an inch.

6. Three times three eighths of an inch are ————.

7. Two times five eighths of an inch are ————.

8. Four times three eighths of an inch are ————.

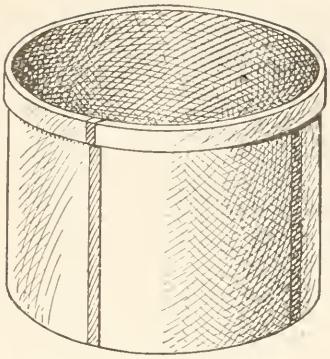
9. Three eighths of an inch are contained in one and one eighth inches (9 eighths) —— times.

10. Three eighths of an inch are contained in one and one half inches —— times.

11. Johnnie had a splinter in his finger one fourth of an inch long. In getting it out his mother broke it into two equal pieces. Each piece was —— —— of an inch long. Johnnie cried.

Copy and add:

230	250	240	220	221
120	132	128	136	131



1 peck.

1. *Eight quarts are one peck.*
2. Twelve quarts are —— and —— —— pecks.
3. *Four pecks are one bushel.*
4. Eight pecks are —— bushels.
5. Twelve pecks are —— bushels.
6. One quart is —— —— of a peck.
7. Three quarts are —— —— of a peck.
8. Five quarts are —— —— of a peck.
9. Seven quarts are —— —— of a peck.
10. One peck is —— —— of a bushel.
11. Two pecks are —— —— of a bushel.
12. Three pecks are —— —— of a bushel.
13. Five pecks are ——————————.
14. Two bushels are —— pecks.
15. One bushel and 3 pecks are —— pecks.

Copy and subtract:

270	206	309	425	536
120	104	105	102	124

1. Two quarts and one pint are —— pints.
2. Two gallons and one quart are —— quarts.
3. Two feet and one inch are —— inches.
4. Two yards and one foot are —— feet.
5. Two dimes and one cent are —— cents.
6. Two pecks and one quart are —— quarts.
7. Two bushels and one peck are —— pecks.
8. Two nickels and one cent are —— cents.
9. Two halves and one fourth are —— fourths.
10. Two halves and one sixth are —— sixths.
11. Two halves and one eighth are —— eighths.
12. Two fourths and one eighth are —— eighths.

13. How many of the class can read the first 12 statements on this page, filling each blank with the right number, in one minute or less?

14. Can you read the first eight statements on page 48 in thirty seconds or less? Try it.

15. At 20 cents a peck, one bushel of potatoes costs —— cents.

16. At 10 cents a quart, one peck of beans costs —— cents.

17. At 40 cents a bushel, one peck of apples costs —— cents.

Copy and multiply:

206	207	205	215	216
2	2	2	2	2

1. Nine slates and five slates are —— slates.

2. Seven dollars and six dollars are ————.

3. My book is —— inches long.

4. If I should draw an oblong 2 inches wide and 7 inches long, and then divide it into 1-inch squares, there would be —— rows of squares, and in each row there would be —— squares. An oblong 2 inches by 7 inches contains —— square inches.

5. Two times 7 square inches are ————.

6. Seven times 2 square inches are ————.

7. Henry is 5 feet 1 inch tall; his sister is 4 feet 6 inches tall; Henry is —— inches taller than his sister.

8. Jane had a piece of red ribbon 14 inches long; she cut from it pieces 4 inches long; when she had cut off 3 pieces, she had —— —— left.

9. In 14 there are —— fours and ——.

10. In 14 there are —— sixes and ——.

11. Byron buys apples at 1 half a cent each and sells them for 1 cent each; on one apple he gains ——; on 14 apples he gains —— cents.

12. Fourteen days are —— weeks. To-day is ——. Two weeks from to-day will be ——. Fifteen days from to-day will be ——. Thirteen days from to-day will be ——.

Copy and divide:

2 qt.)120 qt. 2 qt.)124 qt. 2 qt.)140 qt.

1. Howard has two pieces of board; one piece is 1 and one eighth inches thick; the other is 1 and one fourth inches thick; together they are —— and —— —— inches thick.

2. Draw an oblong 2 and three eighths inches wide; make it twice as long as it is wide. It will be —— and —— —— inches long.

3. Two times 2 and three eighths =

4. Draw a line 1 and one half inches long; divide it into parts each one eighth of an inch long; there are —— parts.

5. Two eighths of an inch are contained in 1 and one half inches (12 eighths) —— times.

6. One half of 4 and one fourth is ——.

7. Harry pays $12\frac{1}{2}$ cents a dozen for eggs; he sells them at 15 cents a dozen; on one dozen he gains ——; on two dozen he gains —— cents.

8. In 14 there are —— threes and ——.

9. In 14 there are —— fives and ——.

10. One seventh of 14 cents is —— cents.

11. Two sevenths of 14 cents are —— cents.

12. Three sevenths of 14 cents are one half of —— cents.

13. Clyde had 14 cents; he spent 4 sevenths of his money; he spent —— cents and had —— cents left.

Copy and divide:

2)120 qt. 2)124 qt. 2)140 qt. 2)144 qt.

9	8	
6	7	3 fives are 15
15	15	5 threes are 15

1. Nine and 6 are ——. 8 and 6 are ——.
2. Nine and 5 are ——. 8 and 7 are ——.

3. Fifteen less 9 are ——. 15 less 7 are —— .
4. Fifteen less 8 are ——. 15 less 6 are ——.
5. Fifteen less 3 are ——. 15 less 10 are ——.
6. Fifteen less 4 are ——. 15 less 12 are ——.

7. 15 is —— 5's. 15 is —— 3's.

8. Fifteen is one dozen and ——.
9. Fifteen inches are —— foot and ——.
10. Fifteen cents are —— dime and —— cents.
11. Fifteen days are —— weeks and —— day.
12. Fifteen pints are —— quarts and —— pint.
13. Fifteen quarts are —— pints.
14. Fifteen feet are —— yards.
15. Fifteen quarts are —— gallons and ——.
16. Fifteen quarts are —— peck and ——.
17. Fifteen pecks are —— bushels and ——.
18. Fifteen halves are —— wholes and ——.
19. Fifteen thirds are —— wholes.
20. Fifteen fourths are —— wholes and ——.

Copy and add:

208	206	209	207	208
205	107	206	107	207

1. Nine bushels of potatoes and 6 bushels of potatoes are —— bushels of potatoes.

2. Eight rows of trees and 6 rows of trees are —— rows of trees.

3. Fifteen pounds of butter less 7 pounds of butter are —— pounds of butter.

4. Fifteen quarts of walnuts less 9 quarts of walnuts are —— quarts of walnuts.

5. Three times 5 lemons are —— lemons.

6. Five times 3 oranges are —— oranges.

7. Five quarts are contained in 1 peck and 7 quarts (15 quarts) —— times.

8. Three quarts are contained in 1 peck and 4 quarts —— times.

9. One half of 15 inches is —— inches.

10. Fifteen inches are one half of —— inches.

11. One third of 15 inches is —— inches.

12. Two thirds of 15 inches are —— inches.

13. One fifth of 15 feet is —— feet.

14. Two fifths of 15 feet are —— feet.

15. Three fifths of 15 feet are —— feet.

16. Alice had 15 apples; she gave two fifths of them to her sister; she gave her sister —— apples and had —— apples left.

17. Ten balls are two thirds of —— balls.

Copy and subtract:

215	214	213	215	215
107	107	105	109	106

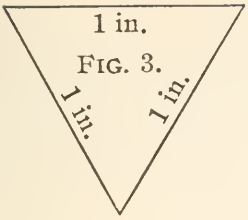


FIG. 3.

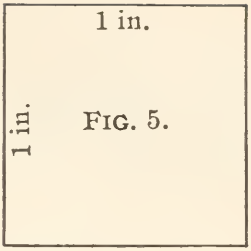


FIG. 5.

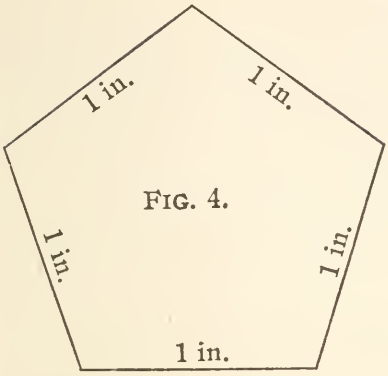


FIG. 4.

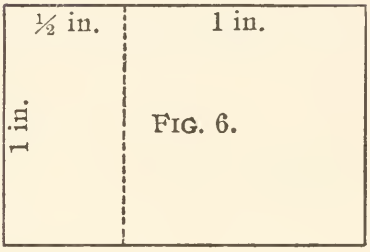


FIG. 6.

1. A triangle has —— sides.
2. An oblong has —— sides.
3. A pentagon has —— sides.
4. A square has —— sides.
5. Figure 3 has —— sides. It is a ——.
6. Figure 4 has —— sides. It is a ——.
7. Figure 5 has —— sides. It is a ——.
8. Figure 6 has —— sides. It is a ——.
9. The perimeter of figure 3 is —— inches.
10. The perimeter of figure 4 is —— inches.
11. The perimeter of figure 5 is —— inches.
12. The perimeter of figure 6 is —— inches.

Copy and multiply:

205	204	215	214	225
3	3	3	3	3

1. 3 cents)12 cents

This means, *find how many times 3 cents are contained in 12 cents.* Three cents are contained in 12 cents —— times.

2. 3)12 cents

This means, *find one third of 12 cents.* One third of 12 cents is —— cents.

3. 3 cents)15 cents

This means, ——————————————————.

4. 3)15 cents

This means, ——————————————————.

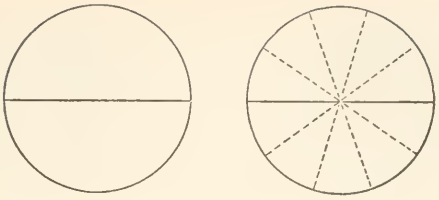
5. James lives 8 miles north of the Court House; Joseph lives 7 miles south of the Court House; from James's home to Joseph's home it is —— miles.

6. At night the out-door temperature was 9 degrees above zero; the next morning it was 6 degrees below zero; the temperature had fallen —— degrees. What was the season of the year?

7. In the morning the out-door temperature was 80 degrees above zero; at noon it was 90 degrees above zero; the temperature had risen —— degrees. What was the season of the year?

Copy and divide:

3 ft.)120 ft. 3 ft.)126 ft. 5 ft.)150 ft.



1. One whole is —— tenths.
2. One half is —— tenths.
3. One and one half are —— tenths.
4. One half and one tenth are —— tenths.
5. One half and three tenths are —— tenths.
6. One half and two tenths are —— tenths.

7. One half less one tenth are —— tenths.
8. One whole less three tenths are —— tenths.
9. One half less two tenths are —— tenths.

10. Two times three tenths are —— tenths.
11. Four times two tenths are —— tenths.
12. Three times four tenths are ————.

13. Two tenths are contained in six tenths ——.
14. Two tenths are contained in one whole ——.
15. One tenth is contained in one half ——.

16. One fifth of one half is ————.
17. One fifth of one whole is ———— tenths.

18. One tenth is contained in two wholes ——.
19. One half is contained in two wholes ——.

Copy and divide:

3)120 ft. 3)126 ft. 5)150 ft. 5)155 ft.

1. One dime is one tenth of a dollar.

2. One half-dollar is —— tenths of a dollar.

3. One half of a dollar and one tenth of a dollar are —— tenths of a dollar.

4. One half of a dollar and three tenths of a dollar are —— tenths of a dollar.

5. One half of a dollar less one tenth of a dollar are —— tenths of a dollar.

6. One half of a dollar less three tenths of a dollar are —— tenths of a dollar.

7. Three times three tenths of a dollar are —— tenths of a dollar.

8. Four times three tenths of a dollar are —— tenths dollars, or one and —— tenths dollars.

9. Two tenths of a dollar are contained in one dollar —— times.

10. One tenth of a dollar is contained in one half of a dollar —— times.

11. One fifth of one half of a dollar is —— —— of a dollar.

Copy and add:

218	216	219	217	218
105	107	106	107	107

1. Can you add column (a) in fifteen seconds, beginning at the top?

2. Can you add column (a) in fifteen seconds, beginning at the bottom?

3. Can you add column (b) in fifteen seconds?

4. Can you add column (c) in fifteen seconds?

5. Ten twos are ——.

6. Fifteen twos are ——.

7. Twenty twos are ——.

8. Twenty-five 2's are ——.

9. Thirty twos are ——.

10. Forty twos are ——.

11. Fifty twos are ——.

12. Two fifties are ——.

13. Four 25's are ——.

14. One fourth of 100 is ——.

15. One fifth of 100 is ——.

16. 75 is three fourths of ——.

17. 40 is two fifths of ——.

18. Harry had one dollar (100 cents); he spent three fourths of his money; he then had —— cents.

a	b	c
2	2	2
2	2	2
2	2	2
2	2	1
2	2	2
2	2	1
2	2	2
2	2	2
2	2	1
2	2	1
2	1	2
2	2	1
2	2	2
2	2	2
2	2	1
2	2	2
2	2	2
2	2	1
2	2	2
2	2	1
2	2	2
2	2	2
2	2	2
2	2	1
2	1	2
1	2	2

Copy and subtract:

245	244	243	245	245
107	107	105	109	106

1. Three quarts and 1 pint are —— pints.
2. Three gallons and 1 quart are —— quarts.
3. Three feet and 1 inch are —— inches.
4. Three yards and 1 foot are —— feet.
5. Three dimes and 1 cent are —— cents.
6. Three bushels and 1 peck are —— pecks.
7. Three nickels and 1 cent are —— cents.
8. Three halves and 1 fourth are —— fourths.
9. Three halves and 1 sixth are —— sixths.

10. There were 100 trees in a park; one fifth of them were elms; one fifth were maples, and the remainder were oaks. There were —— elms, —— maples, and —— oaks.

11. There were 100 people at a banquet; one fourth of them were men, one fourth were women, and the remainder were children. There were —— men, —— women, and —— children.

12. Sarah bought a doll; the price was 75 cents; she gave the salesman one dollar; she should receive in change —— cents.

13. Howard bought seven boxes of berries at 10 cents a box; he gave the salesman one dollar; he should receive in change —— cents.

14. For fifty cents I can buy —— two-cent stamps.

Copy and multiply:

53	42	74	32	31	21
3	3	2	4	5	6

1. Nine pens and six pens are —— pens.

2. Eight desks and seven desks are —— desks.

3. My desk is —— inches wide.

4. If I should draw an oblong 3 inches wide and 5 inches long and then divide it into 1 inch squares, there would be —— rows of squares, and in each row there would be —— squares. An oblong 3 inches by 5 inches contains —— square inches.

5. Three times 5 square inches are ————.

6. Five times 3 square inches are ————.

7. Robert's father is 6 feet 2 inches tall; Robert is 5 feet 1 inch tall. How much taller is Robert's father than Robert?

8. Alice had a piece of green ribbon 15 inches long; she cut from it pieces four inches long; when she had cut off 3 pieces she had —— inches left.

9. Byron buys peanuts at 3 cents a bag; he sells them at 5 cents a bag; on one bag he gains —— cents; on 50 bags he gains ————.

10. In 1 and 1 fourth feet there are —— inches.

11. If a melon costs 15 cents, 1 fifth of a melon costs —— cents.

12. If I drink 1 pint of milk each day, in 2 weeks I shall drink —— quarts of milk.

Copy and divide:

$3¢\overline{)42¢}$ $3¢\overline{)72¢}$ $3¢\overline{)45¢}$ $3¢\overline{)75¢}$

1. Notice that *tenths* may be written in more than one way:

3 tenths	$\frac{3}{10}$	.3
5 tenths	$\frac{5}{10}$	.5
12 tenths	$\frac{12}{10}$	1.2
1 and 2 tenths	$1\frac{2}{10}$	1.2

2. When the period is used as above in writing numbers, it is called a *point*, or a *decimal point.*

3. Write the following in figures, using the decimal point:

4 tenths	1 and 4 tenths
7 tenths	2 and 5 tenths
9 tenths	3 and 8 tenths
11 tenths	1 and 3 tenths
15 tenths	2 and 1 tenth

4. Each of the following may be read in two ways:

1.6 is 1 and 6 tenths, or 16 tenths.

1.3 is —— —— —— —— —— —— ——.

1.4 is —— —— —— —— —— ——·——.

2.5 is —— —— —— —— —— —— ——.

3.4 is —— —— —— —— —— —— ——.

1.9 is —— —— —— —— —— —— ——.

2.1 is —— —— —— —— —— —— ——.

3.5 is —— —— —— —— —— —— ——.

2.7 is —— —— —— —— —— —— ——.

Copy and divide:

3)42¢ 3)72¢ 3)45¢ 3)75¢

—¢

9	8	
7	8	8 twos are 16
16	16	4 fours are 16

1. Nine and 7 are ——. 8 and 7 are ——.
2. Eight and 8 are ——. 9 and 6 are ——.

3. Sixteen less 7 are ——. 16 less 9 are ——.
4. Sixteen less 8 are ——. 16 less 10 are ——.
5. Sixteen less 5 are ——. 16 less 12 are ——.
6. Sixteen less 4 are ——. 16 less 11 are ——.

7. 16 is —— 8's. 16 is —— 4's.

8. Sixteen is one dozen and ——.
9. Sixteen inches are —— foot and —— inches.
10. Sixteen cents are —— dime and —— cents.
11. Sixteen days are —— weeks and —— days.
12. Sixteen pints are —— quarts.
13. Sixteen quarts are —— pints.
14. Sixteen feet are —— yards and —— foot.
15. Sixteen quarts are —— gallons.
16. Sixteen quarts are —— pecks.
17. Sixteen pecks are —— bushels.
18. Sixteen tenths are —— and —— tenths.
19. Sixteen eighths are —— wholes.
20. Sixteen fifths are —— and —— fifth.

Copy and add:

$24\frac{3}{10}$	31.3	26.2	21.4	46.1
$31\frac{5}{10}$	23.5	22.4	43.3	12.2

1. Nine spans of horses and 7 spans of horses are —— spans of horses.

2. Eight loads of coal and 7 loads of coal are —— loads of coal.

3. Sixteen gallons of oil less 9 gallons of oil are —— gallons of oil.

4. Sixteen pounds of cheese less 8 pounds of cheese are —— pounds of cheese.

5. Two times 8 days are —— days.

6. Four times 4 bushels are —— bushels.

7. Two inches are contained in one foot and 4 inches (16 inches) —— times.

8. Four inches are contained in 1 foot and 4 inches —— times.

9. Five inches are contained in 16 inches —— times with a remainder of —— inch.

10. Six inches are contained in 16 inches —— times with a remainder of —— inches.

11. Seven inches are contained in 16 inches —— times with a remainder of —— inches.

12. One third of 16 feet is —— and —— —— feet.

13. Two thirds of 16 feet are ——————.

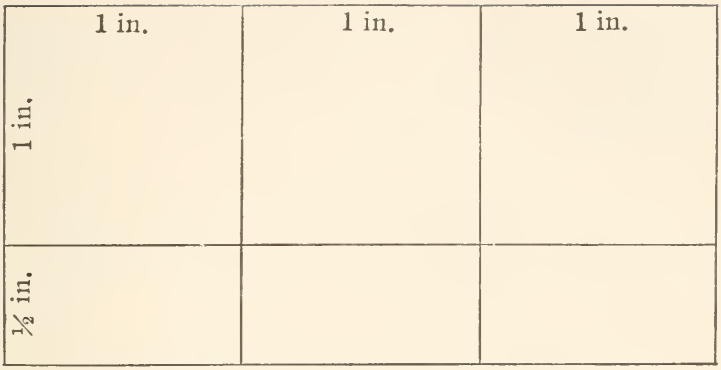
14. One eighth of 16 feet is —— feet.

15. Three eighths of 16 feet are —— feet.

Copy and subtract:

$36\frac{5}{10}$	48.4	56.8	35.5	73.7
$22\frac{3}{10}$	23.2	14.2	10.2	21.4

Fig. 7.



1. By the area of a figure we mean the amount of its surface. The area of Fig. 7 is —— sq. in.

2. The perimeter of Fig. 7 is —— inches.

3. The perimeter of a 2-inch square is —— inches. The area of a 2-inch square is —— sq. in.

4. The perimeter of a 3-inch square is —— inches. The area of a 3-inch square is —— sq. in.

5. The area of a 4-inch square is —— sq. in.

6. The perimeter of an oblong 2 inches by 3 inches is —— inches. The area of an oblong 2 inches by 3 inches is —— sq. in.

7. The sum of two numbers is 16; one of the numbers is 9; the other number is ——.

8. The difference of two numbers is 5; the less number is 11; the greater number is ——.

Copy and multiply:

$23\frac{2}{10}$	24.3	33.3	24.4	12.2
3	2	2	2	3

1. 4 inches)12 inches

This means, *find how many times 4 inches are contained in 12 inches.* Four inches are contained in 12 inches —— times.

2. 4)12 inches

This means, *find one fourth of 12 inches.* One fourth of 12 inches is —— inches.

3. 4 inches)16 inches

This means, ——————————————.

4. 4)16 inches

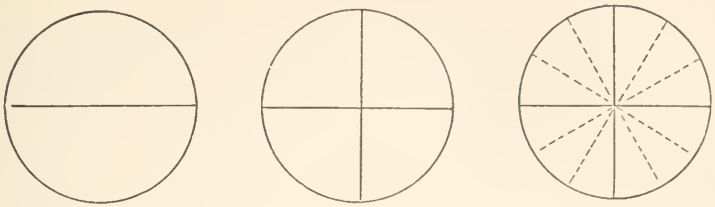
This means, ——————————————.

5. Hattie lives 7 miles south of Waukegan; Elsie lives 9 miles south of Hattie's home; from Waukegan to Elsie's home it is —— miles.

6. When the top of the mercury column in a thermometer is at 32 degrees above zero, water will begin to freeze. Thirty-two degrees above zero is called "the freezing point." When the top of the mercury column is at 40 degrees above zero, it is —— degrees above the freezing point. When the top of the mercury column is at 26 degrees above zero, it is —— degrees below the freezing point.

Copy and divide:

2 miles)36 miles 2 miles)56 miles



1. One whole is —— twelfths.
2. One half is —— twelfths.
3. One fourth is —— twelfths.
4. Three fourths are —— twelfths.
5. One half and 1 twelfth are —— twelfths.
6. One half and 5 twelfths are —— twelfths.
7. One fourth and 1 twelfth are —— twelfths.

8. One half less 1 twelfth are —— twelfths.
9. One half less 5 twelfths is —— twelfth.
10. One fourth less 1 twelfth are —— twelfths.
11. Three fourths less 1 twelfth are —— twelfths.

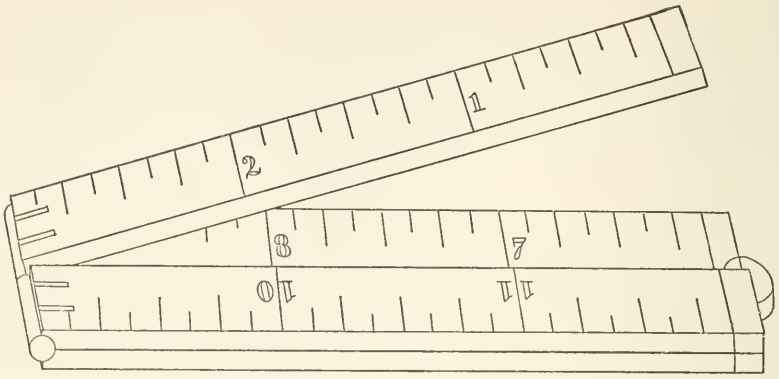
12. Two times 5 twelfths are —— twelfths.
13. Three times 2 twelfths are ————.

14. Two twelfths are contained in 1 half —— times.

15. One third of 1 fourth is ————.
16. Two thirds of 1 fourth are ————.

Copy and divide:

2)46\frac{4}{10}$ 2)$48.6 2)$62.4 2)$84.2



1. One inch is 1 twelfth of a foot.

2. One half of a foot is —— twelfths of a foot.

3. One half of a foot and 1 twelfth of a foot are —— twelfths of a foot.

4. One half of a foot and 5 twelfths of a foot are —— twelfths of a foot.

5. One half of a foot less 1 twelfth of a foot are —— twelfths of a foot.

6. One half of a foot less 5 twelfths of a foot is —— twelfth of a foot.

7. Two times 5 twelfths of a foot are —— twelfths of a foot.

8. Three times 5 twelfths of a foot are —— twelfths feet, or 1 and —— twelfths feet.

9. Two twelfths of a foot are contained in 1 half of a foot —— times.

Copy and add:

$32\frac{5}{10}$	24.6	33.8	51.6	42.7
$24\frac{5}{10}$	12.6	24.5	23.7	23.7

1. Can you add each of these columns in fifteen seconds, beginning at the top?

2. Can you add each of these columns in fifteen seconds, beginning at the bottom?

3. Ten threes are ——.

4. Fifteen threes are ——.

5. Twenty threes are ——.

6. Twenty-five threes are ——.

7. Thirty threes are ——.

8. Forty threes are ————.

9. 28 and 3 =	58 and 3 =	
10. 48 and 3 =	38 and 3 =	
11. 78 and 3 =	98 and 3 =	
12. 29 and 3 =	59 and 3 =	
13. 49 and 3 =	39 and 3 =	
14. 79 and 3 =	99 and 3 =	
15. 37 and 3 =	57 and 3 =	
16. 47 and 3 =	67 and 3 =	
17. 77 and 3 =	97 and 3 =	
18. Three 10's =	3 20's =	
19. Three 30's =	3 40's =	

a	b	c	d
3	2	3	3
3	3	3	3
3	3	3	2
3	3	3	3
3	3	3	1
3	3	3	3
3	3	3	2
3	3	2	3
3	3	3	1
3	3	3	3
3	3	3	2
3	3	3	3
3	3	3	2
3	3	3	1
3	3	3	3
3	3	3	3
3	3	3	1
3	3	3	2
3	3	1	3
3	3	3	3
3	3	3	2
3	3	3	2
3	3	3	1
3	3	3	3
3	3	3	3
1	3	3	2

Copy and subtract:

64	48	54	57	45
$21\frac{5}{10}$	32.6	21.7	22.3	24.4

1. Four quarts and 1 pint are —— pints.
2. Four gallons and 1 quart are —— quarts.
3. Four feet and 1 inch are —— inches.
4. Four yards and 1 foot are —— feet.
5. Four bushels and 1 peck are —— pecks.
6. Four nickels and 1 cent are —— cents.
7. There were 90 trees in an orchard; one third of them were apple trees; one third of them were pear trees, and the remainder were peach trees. There were —— apple trees, —— pear trees, and —— peach trees.
8. Three fourths of the trees in a park were maples; the remainder were oaks; there were 75 maples. There were —— trees in the park. There were —— oaks in the park.
9. Seventy-five is three fourths of ——.
10. Thirty is three fourths of ——.
11. William bought 30 oranges at 3 cents each; he gave the salesman 1 dollar; he should receive in change —— cents.
12. Herbert bought 2 packages of paper at 20 cents each; he gave the salesman half a dollar; he should receive in change —— cents.
13. Twenty 3-cent stamps cost —— cents.
14. For 90 cents I can buy —— 3-cent stamps.

Copy and multiply:

$22\frac{6}{10}$	32.7	24.5	31.6	43.7
2	2	2	2	2

1. Think of a 1-foot square. Think of a 3-foot square. Think of a 3-foot square divided into 1-foot squares. A 3-foot square contains —— square feet.

2. A 3-foot square is sometimes called a square yard. A square yard contains —— square feet.

3. One third of a square yard is —— sq. ft.

4. Two thirds of a square yard are —— sq. ft.

5. If I should draw an oblong 3 feet wide and 4 feet long and divide it into 1-foot squares there would be —— rows of squares, and in each row there would be —— squares. An oblong 3 feet by 4 feet contains —— square feet.

6. Three times 4 square feet are —— sq. ft.

7. An oblong 3 feet by 4 feet contains 1 and —— —— square yards.

8. A 4-foot square contains —— square feet.

9. A 4-foot square contains 1 square yard and —— square feet.

10. Six square feet are —— —— of a square yard.

11. One square foot is contained in 1 square yard —— times.

12. Three square feet are contained in 1 square yard —— times.

Copy and divide:

2 tenths)36 tenths .2)2.4* .2)4.8 .2)6.4

*2 tenths in 24 tenths.

1. Write the following in figures, using the decimal point:

34 tenths	2 and seven tenths
45 tenths	4 and two tenths
23 tenths	3 and five tenths
19 tenths	1 and seven tenths

2. Each of the following may be read in two ways:

3.2 is 3 and two tenths, or 32 tenths.

2.7 is —— —— —— —— —— —— ——.

5.1 is —— —— —— —— —— —— ——.

4.4 is —— —— —— —— —— —— ——.

3. .3 are contained in 1.5 —— times.

4. .2 are contained in 1.6 —— times.

5. .4 are contained in 1.6 —— times.

6. .5 are contained in 1.5 —— times.

7. Draw an oblong 3 and one fourth inches wide; make it twice as long as it is wide; it is —— and —— —— inches long.

8. Draw an oblong 4 and one half inches wide; make it twice as long as it is wide; it is —— inches long.

9. $\frac{3}{4}$ of 12 are ——. 12 is $\frac{3}{4}$ of ——.

10. $\frac{1}{2}$ of 12 is ——. 12 is $\frac{1}{2}$ of ——.

Copy and divide:

$2)\underline{\$46\frac{4}{5}}$ $2)\underline{\$48.4}$ $2)\underline{\$28\frac{2}{5}}$ $2)\underline{\$68.2}$

\$

9	9	3 sixes are 18
8	9	6 threes are 18
17	18	9 twos are 18

1. Nine and 8 are ——. 9 and 9 are ——.
2. Nine and 7 are ——. 9 and 6 are ——.

3. Seventeen less 8 are ——. 17 less 12 =
4. Seventeen less 7 are ——. 17 less 11 =
5. Eighteen less 9 are ——. 18 less 12 =
6. Eighteen less 8 are ——. 18 less 15 =

7. 18 is —— 9's. 18 is —— 6's.

8. Seventeen inches are —— foot and ——.
9. Seventeen dimes are —— dollar and ——.
10. Seventeen days are —— weeks and ——.
11. Seventeen pints are —— quarts and ——.
12. Seventeen quarts are —— pecks and ——.
13. Seventeen quarts are —— gallons and ——.
14. Seventeen feet are —— yards and ——.
15. Eighteen tenths are —— and ——.
16. Eighteen fifths are —— and ——.
17. Eighteen fourths are —— and ——.
18. Eighteen feet are —— yards.
19. Eighteen cents are —— dime and ——.
20. Eighteen days are —— weeks and ——.

Copy and add:

$35\frac{1}{4}$	43.2	37.3	46.4	55.6
$36\frac{1}{2}$	29.1	27.4	28.2	17.1

FOR DRILL IN ADDING.

9	9	8	7
4	6	8	6
9	7	9	8
9	7	7	6
8	8	9	9
5	7	5	8

Review and drill until pupils can give the sums in any order in 12 seconds. It provides an excellent exercise to put the figures found in this table upon 12 cards, 2 figures on each card; then allow the pupils to handle the cards and name the sums as rapidly as possible.

Suspend a pendulum 39 inches long, and see how many pupils can recite these sums while it vibrates 12 times.

FOR DRILL IN MULTIPLYING.

This is a review of the 23 facts of multiplication that have already been presented.

2 times 2 are ——. 2 times 5 are ——.
4 times 2 are ——. 3 times 6 are ——.
6 times 2 are ——. 2 times 7 are ——.
3 times 2 are ——. 3 times 5 are ——.
5 times 2 are ——. 2 times 9 are ——.
8 times 2 are ——. 2 times 8 are ——.
7 times 2 are ——. 2 times 6 are ——.
9 times 2 are ——. 4 times 3 are ——.
3 times 3 are ——. 5 times 3 are ——.
2 times 4 are ——. 6 times 3 are ——.
2 times 3 are ——. 3 times 4 are ——.
4 times 4 are ——.

Copy and subtract:

43	35	57	48	59
$21\frac{3}{4}$	$12\frac{2}{5}$	$23\frac{5}{6}$	$31\frac{2}{7}$	24.6

1. Henry drew an oblong upon his slate. It contained 10 square inches. It was 5 inches long. It was ____ inches wide.

2. A square that contains 4 square inches is a —— inch square.

3. A square that contains 9 square inches is a —— inch square.

4. Mary drew a square upon her slate; the area of the square was 16 square inches. It was a —— square inch.

5. The sum of 8 cents and 2 cents is ——¢.

6. The difference of 8 cents and 2 cents is —— cents.

7. *There can be no product of 8 cents and 2 cents.*

8. The product of 8 cents and 2 is ——¢.

9. The quotient of 8¢ divided by 2¢ is ——.

10. The quotient of 8¢ divided by 2 is ——¢.

11. The quotient of 15¢ divided by 3¢ is ——.

12. The quotient of 15¢ divided by 3 is ——¢.

13. The quotient of 16¢ divided by 4¢ is ——.

14. The quotient of 16¢ divided by 4 is ——¢.

15. The quotient of 15¢ divided by 5¢ is ——.

16. The quotient of 15¢ divided by 5 is ——¢.

Copy and multiply:

$22\frac{1}{2}$	$32\frac{3}{5}$	$43\frac{3}{4}$	$21\frac{5}{6}$	21.6
3	2	2	2	3

1. 5 quarts)15 quarts

This means, *find how many times 5 quarts are contained in 15 quarts.* Five quarts are contained in 15 quarts —— times.

2. 5)15 quarts

This means, *find one fifth of 15 quarts.* One fifth of 15 quarts is —— quarts.

3. Highland Park is 11 miles north of Evanston; Waukegan is $12\frac{1}{2}$ miles north of Highland Park; from Evanston to Waukegan it is —— miles.

4. In the evening the outdoor temperature was 8 degrees above the freezing point; the next morning it was 9 degrees below the freezing point; during the night it had fallen —— degrees.

5. When the temperature is 2 degrees below the freezing point, it is —— degrees above zero.

6. When the temperature is 28 degrees above zero, it is —— degrees below the freezing point.

7. 18 is 4 4's and ——. 18 is 3 5's and ——.

8. 18 is 2 7's and ——. 18 is 2 8's and ——.

9. 17 is 8 2's and ——. 17 is 5 3's and ——.

10. 17 is 7 2's and ——. 17 is 2 6's and ——.

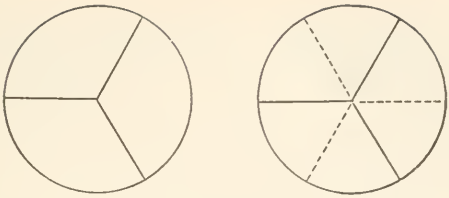
Copy and divide:

3 fifths)15 fifths

3 fourths)18 fourths

3 halves)36 halves

3 tenths)36 tenths



1. One whole is —— thirds.
2. One whole is —— sixths.
3. One third is —— sixths.
4. Two thirds are —— sixths.
5. One third and 1 sixth are —— sixths.
6. Two thirds and 1 sixth are —— sixths.

7. One third less 1 sixth is —— sixth.
8. Two thirds less 1 sixth are —— sixths.

9. Two times 2 sixths are —— sixths.
10. Three times 2 sixths are ————.

11. Two sixths are contained in 1 whole ————.

12. One half of 1 third is —— sixth.

13.	$\frac{1}{2}$ and $\frac{1}{4}$ =	$\frac{1}{2}$ less $\frac{1}{4}$ =	$\frac{1}{2}$ and $\frac{1}{6}$ =
14.	$\frac{1}{2}$ less $\frac{1}{6}$ =	$\frac{1}{2}$ and $\frac{1}{8}$ =	$\frac{1}{2}$ less $\frac{1}{8}$ =
15.	$\frac{1}{2}$ and $\frac{1}{10}$ =	$\frac{1}{2}$ less $\frac{1}{10}$ =	$\frac{1}{2}$ and $\frac{1}{12}$ =
16.	$\frac{1}{2}$ less $\frac{1}{12}$ =	$\frac{1}{2}$ and $\frac{3}{8}$ =	$\frac{1}{2}$ less $\frac{3}{8}$ =
17.	$\frac{1}{2}$ and $\frac{2}{10}$ =	$\frac{1}{2}$ less $\frac{2}{10}$ =	$\frac{1}{2}$ and $\frac{3}{10}$ =
18.	$\frac{1}{2}$ less $\frac{3}{10}$ =	$\frac{1}{2}$ and $\frac{4}{10}$ =	$\frac{1}{2}$ less $\frac{4}{10}$ =

Copy and divide:

2)24 thirds 2)46 tenths 3)36 fifths

1. One third of a pie is 2 sixths of a pie.

2. Two thirds of a pie are 4 sixths of a pie.

3. Harry had a whole pie; he ate 1 third of it for his lunch and 1 sixth of it at dinner time; he then had —— —— of a pie.

4. Sarah had 1 third of a pie; she gave 1 sixth of a pie to her little brother; she then had —— —— of a pie.

5. Mrs. Smith's boarders ate $2\frac{1}{3}$ pies at dinner and $2\frac{1}{6}$ pies at supper; in all they ate ———— pies.

6. Hattie divided $2\frac{1}{3}$ pies among her playmates, giving to each $\frac{1}{3}$ of a pie; she had —— playmates.

7. If I should divide 1 half of a pie equally among three children, each child would receive —— —— of a pie.

8. If I should divide 1 half of a pie equally between two children, each child would receive —— —— of a pie.

9. If I had two thirds of a pie and gave away 1 sixth of a pie, I should then have —— —— of a pie.

Copy and add:

$24\frac{1}{3}$	261	245	374	18.6
$32\frac{1}{6}$	162	182	131	32.2

1. Can you add each of these columns in fifteen seconds, beginning at the top?

2. Can you add each of these columns in fifteen seconds, beginning at the bottom?

a	b	c	d
4	2	4	3
4	4	4	4
4	4	4	2
4	4	4	1
4	4	1	1
4	4	4	3
4	4	4	4
4	4	4	2
4	4	4	3
4	4	2	1
4	4	4	4
4	4	4	2
4	4	4	2
4	4	4	1
4	4	4	3
4	4	4	4
4	4	4	2
4	4	3	4
4	4	4	3
4	4	4	1
4	4	4	2
4	4	4	4
4	4	4	2
4	4	4	3
1	3	4	4

3. Ten fours are ——.
4. Eleven fours are ——.
5. Twelve fours are ——.

6. 28 and 4 = 38 and 4 =
7. 48 and 4 = 58 and 4 =
8. 68 and 4 = 78 and 4 =

9. 29 and 4 = 39 and 4 =
10. 49 and 4 = 59 and 4 =
11. 69 and 4 = 79 and 4 =

12. 26 and 4 = 36 and 4 =
13. 46 and 4 = 56 and 4 =
14. 66 and 4 = 76 and 4 =

15. 27 and 4 = 37 and 4 =
16. 47 and 4 = 57 and 4 =
17. 67 and 4 = 77 and 4 =

Copy and subtract:

247	209	207	325	346
63	82	43	62	84

1. Five quarts and 1 pint are —— pints.
2. Five yards and 1 foot are —— feet.
3. Five dimes and 1 cent are —— cents.
4. Five halves and 1 fourth are —— fourths.
5. Five halves and 1 sixth are —— sixths.
6. Five nickels and 1 cent are —— cents.

7. Seven pints are —— and —— —— quarts.
8. Two is contained in 7 ———— times.
9. Two is contained in 9 ———— times.

10. Seven feet are —— and —— —— yards.
11. Three is contained in 7 ———— times.
12. Three is contained in 10 ———— times.

13. Nine pecks are —— and —— —— bushels.
14. Four is contained in 9 ———— times.
15. Four is contained in 13 ———— times.

16. In 11 there are —— 5's and —— remainder.
17. Five is contained in 11 ———— times.
18. Five is contained in 16 ———— times.

19. In 13 there are —— 6's and —— remainder.
20. Six is contained in 13 ———— times.
21. Six is contained in 19 ———— times.

Copy and multiply:

$32\frac{1}{2}$	263	273	283	25.3
3	2	2	2	2

1. 8 + 2, means, 8 *and* 2; 8 and 2 are ——.

2. 8 − 2, means, 8 *less* 2; 8 less 2 are ——.

3. 8 inches × 2, means, *2 times 8 inches;* 2 times 8 inches are —— inches.

4. 8 inches ÷ 2 inches, means, *find how many times 2 inches are contained in 8 inches;* 2 inches are contained in 8 inches —— times.

5. 8 inches ÷ 2, means, *find one half of 8 inches;* one half of 8 inches is —— inches.

6. 4 sixths + 2 sixths, means ——. $\frac{4}{6} + \frac{2}{6} =$

7. 4 sixths − 2 sixths, means ——. $\frac{4}{6} - \frac{2}{6} =$

8. 4 sixths × 2, means ——. $\frac{4}{6} \times 2 =$

9. 4 sixths ÷ 2 sixths, means ——. $\frac{4}{6} \div \frac{2}{6} =$

10. 4 sixths ÷ 2, means ——. $\frac{4}{6} \div 2 =$

11. 6 tenths + 2 tenths, means ——. .6 + .2 =

12. 6 tenths − 2 tenths, means ——. .6 − .2 =

13. 6 tenths × 2, means ——. .6 × 2 =

14. 6 tenths ÷ 2 tenths, means ——. .6 ÷ .2 =

15. 6 tenths ÷ 2, means ——. .6 ÷ 2 =

16. 12¢ + 3¢, means ——. 12¢ − 3¢, means ——.

17. 12¢ × 3¢ = *nonsense.* 12¢ × 3, means ——.

18. 12¢ ÷ 3, means ——. 12¢ ÷ 3¢, means ——.

Copy and divide:

$4)$804 $4)$408 $4)$448 $4)$488

—— times

1. Write the following in figures, using the decimal point:

275 tenths	23 and 4 tenths
146 tenths	13 and 5 tenths
224 tenths	26 and 3 tenths
346 tenths	15 and 6 tenths

2. Each of the following may be read in two ways:

24.2 is 24 and 2 tenths, or 242 tenths.

37.5 is —— —— —— —— —— —— ——.

25.6 is —— —— —— —— —— —— ——.

14.5 is —— —— —— —— —— —— ——.

3. Draw an oblong 6 and 1 half inches long; make it one half as wide as it is long; it is —— and —— —— inches wide.

$6\frac{1}{2}$ inches $\div$ 2 means ——. $6\frac{1}{2}$ inches $\div$ 2 =

4. Draw an oblong 4 and 1 half inches long; make it half as wide as it is long; it is —— and —— —— inches wide.

$4\frac{1}{2}$ inches $\div$ 2 means ——. $4\frac{1}{2}$ inches $\div$ 2 =

5. $\frac{2}{3}$ of 12 are ——. 12 is $\frac{2}{3}$ of ——.

6. $\frac{3}{4}$ of 8 are ——. 9 is $\frac{3}{4}$ of ——.

7. $\frac{1}{2}$ of 7 is ——. 7 is $\frac{1}{2}$ of ——.

Copy and divide:

4)\$804 4)\$408 4)\$448 4)\$488

\$——

4 fives are 20	5 fours are 20
3 sevens are 21	7 threes are 21
3 eights are 24	8 threes are 24

1. Twenty pecks are —— bushels.
2. Twenty fifths are —— wholes.
3. Twenty-one days are —— weeks.
4. Twenty-one feet are —— yards.
5. Twenty-four quarts are —— pecks.
6. Twenty-four feet are —— yards.

7. Three pecks are —— quarts. 2 pecks =
8. Three weeks are —— days. 2 weeks =
9. Eight yards are —— feet. 7 yards =
10. Five bushels are —— pecks. 4 bushels =

11. Nineteen inches are —— foot and ——.
12. Nineteen quarts are —— pecks and ——.
13. Twenty days are —— weeks and ——.
14. Twenty-one dimes are —— dollars and ——.
15. Twenty-two pecks are —— bushels and ——.
16. Twenty-two feet are —— yards and ——.
17. Twenty-four cents are —— dimes and ——.
18. Twenty-four tenths are —— and ——.
19. Twenty-four sevenths are —— and ——.
20. Twenty-four fifths are —— and ——.
21. Twenty-four days are —— weeks and ——.

Copy and add:

$23\frac{1}{4}$	362	375	284	27.4
$35\frac{1}{8}$	241	143	172	35.1

1. Twelve pairs of boots are —— boots.
2. Three spiders have —— legs.
3. Three house-flies have —— legs.
4. Three cats have —— feet.
5. Eleven spans of horses are —— horses.
6. Five butterflies have —— wings.
7. A cat has —— toes on each front foot and —— toes on each hind foot. A cat has —— toes.
8. Eight three-cent stamps cost —— cents.
9. Eight 2-cent stamps cost —— cents.
10. A boy wears 2 shoes. A horse wears 4 shoes. An ox wears 8 shoes. Three boys need —— shoes. 3 horses need —— shoes. 3 oxen need —— shoes.
11. What day of the week is it? It is ———. One week from to-day will be ———; 14 days from to-day will be ———; 21 days from to-day will be ———; 22 days from to-day will be ———; 20 days from to-day will be ———.
12. At 3¢ each, 7 oranges cost —— cents.
13. At 8¢ each, 3 melons cost —— cents.
14. At 7¢ each, 3 balls cost —— cents.
15. At 3¢ each, 8 pencils cost —— cents.
16. When 2 oranges cost 8¢, 3 oranges cost ——.
17. When 3 lemons cost 6¢, 4 lemons cost ——.

Copy and subtract:

$45\frac{1}{4}$	264	363	268	36.5
$17\frac{1}{8}$	83	91	72	8.2

1. Henry drew an oblong upon his slate. It contained 20 square inches. It was 5 inches long. It was —— inches wide.

2. An oblong that is 3 inches by 7 inches contains —— square inches. Its perimeter is —— inches.

3. The area of an oblong that is 2 inches by 8 inches is —— square inches. 8 sq. in. × 2 =

4. The perimeter of an oblong that is 2 inches by 8 inches is —— inches.

5. A square whose area is 16 square inches is a —— inch square.

6. I am thinking of an oblong whose area is 21 square inches. It is 7 inches long. It is —— inches wide.

7. The perimeter of a figure is 18 feet; each side is 6 feet; the figure is a ——.

8. The sum of 10 feet and 2 feet is —— ft.

9. The difference of 10 feet and 2 feet is —— ft.

10. *There can be no product of 10 feet and 2 feet.*

11. The product of 10 feet and 2 is —— ft.

12. The quotient of 10 feet divided by 2 feet is ——.

13. The quotient of 10 feet divided by 2 is —— ft.

Copy and multiply:

$22\frac{1}{3}$	132	231	123	12.3
4	4	4	4	4

1. 3 pecks)24 pecks

This means, *find how many times 3 pecks are contained in 24 pecks.* Three pecks are contained in 24 pecks —— times.

2. 3)24 pecks

This means, *find one third of 24 pecks.* One third of 24 pecks is —— pecks.

3. Peter lives $4\frac{1}{2}$ miles west of Lake Michigan; Herbert lives $2\frac{3}{8}$ miles west of Peter; Herbert lives —— miles west of the lake.

4. When the temperature is 6 degrees below the freezing point, it is —— degrees above zero.

5. Samuel has two pieces of rope; one piece is 8 feet long; the other piece is 3 yards long; together they are —— feet long.

6. When apples cost $2\frac{1}{2}$ dollars a barrel, 3 barrels cost —— dollars.

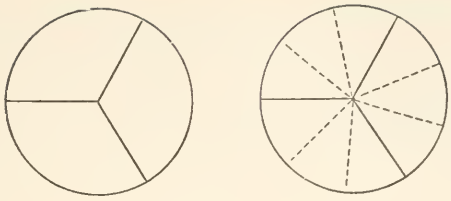
7. I am thinking of a triangle, each side of which is 2 inches long. The perimeter of the triangle is —— inches.

8. I am thinking of a triangle, each side of which is 4 feet long. The perimeter of the triangle is —— feet.

9. Twelve feet equal —— yards.

Copy and divide:

\$3)\$426	\$3)\$456	\$3)\$486	\$3)\$786
—— times			



1. One whole is —— ninths.
2. One third is —— ninths.
3. Two thirds are —— ninths.
4. One third and 1 ninth are —— ninths.
5. One third less 1 ninth are —— ninths.
6. Two thirds and 1 ninth are —— ninths.
7. Two thirds less 1 ninth are —— ninths.
8. One third and 2 ninths are —— ninths.
9. One third less 2 ninths is —— ninth.
10. Two thirds and 2 ninths are —— ninths.
11. Two thirds less 2 ninths are —— ninths.

12. Four times 2 ninths are —— ninths.
13. Three times 2 ninths are —— ninths.

14. Two ninths are contained in 8 ninths —— times.
15. Two ninths are contained in $1\frac{1}{9}$ —— times.

16. One half of 1 third is —— ——.
17. One third of 1 third is —— ——.

Copy and divide:

3)$426 3)$456 3)$486 3)$786

1. If each third of a pie should be divided into 3 equal pieces, each piece would be —— —— of a pie. A hungry boy would think these very small pieces.

2. $\frac{1}{3}$ of a pie + $\frac{1}{9}$ of a pie = $2\frac{1}{3} + 2\frac{1}{9} =$
3. $\frac{1}{3}$ of a pie − $\frac{1}{9}$ of a pie = $4\frac{1}{3} - 2\frac{1}{9} =$
4. $2\frac{2}{9}$ of a pie × 4 = $3\frac{2}{9} \times 4 =$
5. $2\frac{1}{3}$ pies ÷ $\frac{1}{3}$ of a pie = $2\frac{1}{3} \div \frac{1}{6} =$
6. $4\frac{1}{3}$ pies ÷ 2 = $8\frac{1}{3} \div 2 =$

7. $\frac{2}{3}$ of a yard and $\frac{1}{9}$ of a yard = $2\frac{2}{3} + 2\frac{1}{9} =$
8. $\frac{2}{3}$ of a yard less $\frac{1}{9}$ of a yard = $4\frac{2}{3} - 2\frac{1}{9} =$
9. $\frac{2}{9}$ of a yard × 3 = $2\frac{2}{9} \times 3 =$
10. $1\frac{1}{9}$ yards ÷ $\frac{1}{9}$ of a yard = $2\frac{1}{9} \div \frac{1}{9} =$
11. $6\frac{1}{3}$ yards ÷ 3 = $9\frac{1}{3} \div 3 =$

12. Henry had two pieces of rope; one was $2\frac{1}{9}$ yards long; the other was $3\frac{2}{9}$ yards long; together they were —— and —— —— yards long.

13. One and $\frac{1}{3}$ yards and $1\frac{1}{9}$ yards are ————.

14. The sum of $5\frac{1}{3}$ yards and $2\frac{1}{9}$ yards is —— and —— —— yards.

15. One foot is —— —— of a yard.

16. One third of a foot is 1 ninth of a yard.

Copy and add:

$34\frac{1}{3}$	624	736	832	92.2
$23\frac{1}{9}$	625	721	822	93.5

1. Can you add column (a) in fifteen seconds, beginning at the top?

2. Can you add column (a) in fifteen seconds, beginning at the bottom?

3. Practice until you can do this with each column.

4. Ten fives are ——.
5. Eleven fives are ——.
6. Twelve fives are ——.
7. Twenty fives are ——.

8.	$28 + 5 =$	$38 + 5 =$
9.	$48 + 5 =$	$58 + 5 =$
10.	$68 + 5 =$	$78 + 5 =$
11.	$19 + 5 =$	$39 + 5 =$
12.	$49 + 5 =$	$29 + 5 =$
13.	$69 + 5 =$	$89 + 5 =$
14.	$67 + 5 =$	$37 + 5 =$
15.	$27 + 5 =$	$17 + 5 =$
16.	$16 + 5 =$	$36 + 5 =$
17.	$26 + 5 =$	$56 + 5 =$

a	b	c	d	e
5	2	4	5	5
5	5	5	5	4
5	5	5	5	3
5	5	5	4	2
5	5	5	5	1
5	5	5	5	3
5	5	5	5	4
5	5	5	3	2
5	5	5	5	5
5	5	5	5	1
5	5	5	5	5
5	5	5	2	3
5	5	5	5	4
5	5	5	5	2
5	5	5	5	1
5	5	5	1	5
5	5	5	5	4
5	5	5	5	2
5	5	5	5	3
5	5	5	4	4
1	3	5	5	3

Copy and subtract:

$54\frac{3}{4}$	253	355	257	24.6
$26\frac{1}{8}$	72	82	92	8.2

1. Six quarts and 1 pint are —— pints.
2. Six yards and 1 foot are —— feet.
3. Six dimes and 1 cent are —— cents.
4. Six halves and 1 fourth are —— fourths.
5. Six nickels and 1 cent are —— cents.

6. Eight feet are —— and —— —— yards.
7. Three is contained in 8 ———— times.
8. Three is contained in 11 ———— times.

9. Ten pecks are —— and —— —— bushels.
10. Four is contained in 10 ———— times.
11. Four is contained in 14 ———— times.

12. In 12 there are —— 5's and —— remainder.
13. Five is contained in 12 ———— times.
14. Five is contained in 17 ———— times.
15. Five is contained in 21 ———— times.
16. Five is contained in 22 ———— times.
17. Five is contained in 23 ———— times.
18. Five is contained in 24 ———— times.

19. 4 12's are 48. 5 12's are 60
20. 4 11's are 44. 5 11's are 55.
21. 3 11's are 33. 2 11's are 22.

Copy and multiply:

$23\frac{1}{8}$	104	103	102	10.5
5	5	5	5	5

1. $\$9 + \$7$, means ————. $\$9$ and $\$7 =$
2. $\$9 - \$7$, means ————. $\$9$ less $\$7 =$
3. $\$9 \times 2$, means ————. 2 times $\$9 =$
4. $\$9 \div \$2$, means ————. $\$2$ are ——.
5. $\$9 \div 2$, means ————. $\frac{1}{2}$ of $\$9 =$

6. $\$\frac{1}{2} + \$\frac{1}{10}$, means ————. $\$\frac{1}{2}$ and $\$\frac{1}{10} =$
7. $\$\frac{1}{2} - \$\frac{1}{10}$, means ————. $\$\frac{1}{2}$ less $\$\frac{1}{10} =$
8. $\$\frac{3}{10} \times 5$, means ————. 5 times $\$\frac{3}{10} =$
9. $\$\frac{9}{10} \div \$\frac{2}{10}$, means ————. $\$\frac{2}{10}$ are ——.
10. $\$\frac{8}{10} \div 2$, means ————. $\frac{1}{2}$ of $\$\frac{8}{10} =$

11. $\$.6 + \$.3$, means ————. $\$.6 + \$.3 =$
12. $\$1 - \$.3$, means ————. $\$1 - \$.3 =$
13. $\$.5 \times 4$, means ————. 4 times $\$.5 =$
14. $\$1.5 \div \$.3$, means ————. $\$.3$ are ——.
15. $\$1.8 \div 3$, means ————. $\frac{1}{3}$ of ————.

16. Arthur had $\$4.2$; he earned $\$1.5$; he then had —— and —— —— dollars.

17. Fred had $\$3.6$; he spent $\$1.5$; he then had —— and —— —— dollars.

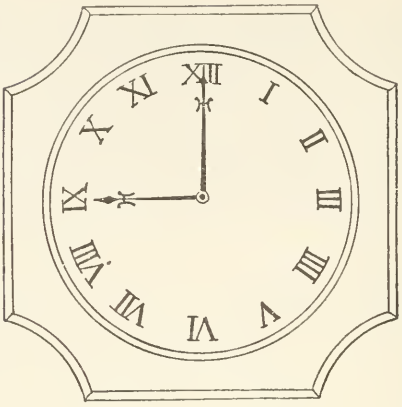
18. James earned $\$.3$ each day; in 4 days he earned ————.

19. When coffee costs $\$.3$ a pound, for $\$1.2$ I can buy ———— pounds.

Copy and divide:

$\$2\overline{)\$412}$ $\$2\overline{)\$616}$ $\$2\overline{)\$214}$ $\$2\overline{)\$418}$

—— times



1. 60 seconds are 1 minute.
2. 60 minutes are 1 hour.
3. 24 hours are 1 day.
4. One half-hour is —— minutes.
5. One fourth-hour is —— minutes.
6. When the long hand of a clock points to XII and the short hand to IX, it is —— o'clock.
7. When the long hand points to XII and the short hand to VI, it is —— o'clock.
8. At 5 minutes past 9, the long hand points to ——. At "half past 3," the long hand points to ——. At "quarter past 6," the long hand points to ——. At 20 minutes past 8, the long hand points to ——.
9. "Half past 9" is usually printed 9:30.
10. "Quarter past 9" is usually printed 9:15.
11. "Quarter of ten" is usually printed 9:45.

Copy and divide:

2)$412 2)$616 2)$214 2)$418

4 sixes are 24 6 fours are 24
3 nines are 27 9 threes are 27
5 fives are 25

1. Twenty-four pecks are —— bushels.
2. Twenty-four sixths are —— wholes.
3. Twenty-seven feet are —— yards.
4. Twenty-seven ninths are —— wholes.
5. Twenty-five fifths are —— wholes.

6. 25 is — 6's and —. 26 is — 4's and —.
7. 27 is — 4's and —. 26 is — 6's and —.
8. 28 is — 9's and —. 29 is — 3's and —.
9. 29 is — 6's and —. 29 is — 4's and —.

10. 6 bushels are —— pecks. 5 bushels =
11. 9 yards are —— feet. 8 yards =

12. Twenty-five inches are —— feet and ——.
13. Twenty-five quarts are —— pecks and ——.
14. Twenty-six days are —— weeks and ——.
15. Twenty-six dimes are —— dollars and ——.
16. Six bushels and 2 pecks are —— pecks.
17. Five bushels and 3 pecks are —— pecks.
18. Nine yards and 2 feet are —— feet.
19. Eight yards and 1 foot are —— feet.
20. Three feet and 3 inches are —— inches.

Copy and add:

$26\frac{2}{3}$	605	704	803	90.7
$22\frac{1}{9}$	508	609	708	60.5

1. Two thirds of 18 apples are —— apples.

2. Eighteen apples are two thirds of ——.

3. Three fourths of 12 oranges are —— oranges.

4. Twelve oranges are three fourths of ——.

5. Eight is two thirds of ——. 12 is two thirds of ——. 18 is two thirds of ——.

6. The first day of August, 1898, was Monday; the next Monday was the ——th; the ninth was ——; the seventh was ——.

7. Nine 3-cent stamps cost —— cents.

8. Six 4-cent stamps cost —— cents.

9. Five 5-cent stamps cost —— cents.

10. At $9 a ton, 3 tons of hay cost —— dollars.

11. At $6 a ton, 4 tons of coal cost —— dollars.

12. At $3 each, 9 hats cost —— dollars.

13. Six spoons are a set; 24 spoons are —— sets; 18 spoons are —— sets.

14. When kerosene is 9¢ a gallon, for 27¢ I can buy —— gallons.

15. When wood is $6 a cord, for $24 I can buy —— cords; for $27 I can buy ———— cords.

16. When sugar is 4¢ a pound, for 24¢ I can buy —— pounds; for 26¢ I can buy ———— pounds.

Copy and subtract:

$62\frac{2}{3}$	365	374	383	32.6
$16\frac{1}{9}$	183	182	191	16.3

1. If I should draw an oblong 3 inches wide and 9 inches long, and then divide it into 1-inch squares, there would be —— rows of squares. An oblong 3 inches by 9 inches contains —— square inches.

2. Three times 9 square inches are ——.

3. Nine times 3 square inches are ——.

4. A square whose area is 25 square inches is a —— inch square.

5. The perimeter of a 5-inch square is —— inches.

6. I am thinking of a pentagon, each side of which is 4 inches. The perimeter of this pentagon is —— inches.

7. The sum of 9 inches and 3 inches =

8. The difference of 9 inches and 3 inches =

9. *There can be no product of 9 inches and 3 inches.*

10. The product of 9 inches and 3 =

11. The quotient of 27 inches divided by 3 inches =

12. The quotient of 27 inches divided by 3 =

13. The quotient of 24 inches divided by 4 inches =

14. The quotient of 24 inches divided by 4 =

Copy and multiply:

$31\frac{1}{9}$	131	141	151	12.1
5	5	5	5	5

1. Four and one half times 6, means, *4 sixes and 1 half of six.* $4\frac{1}{2}$ times 6 =

2. $6 \times 2\frac{1}{2}$, means, *$2\frac{1}{2}$ times 6, or 2 sixes and $\frac{1}{2}$ of six.* $2\frac{1}{2}$ times 6 = $6 \times 2\frac{1}{2} =$

3. Notice carefully the following:

3 tons at \$8 a ton; \$8 × 3 =
2 tons at \$8 a ton; \$8 × 2 =
1 ton at \$8 a ton; \$8 × 1 =
$\frac{1}{2}$ ton at \$8 a ton; \$8 × $\frac{1}{2}$ =
$\frac{1}{4}$ ton at \$8 a ton; \$8 × $\frac{1}{4}$ =
$2\frac{1}{2}$ tons at \$8 a ton; \$8 × $2\frac{1}{2}$ =
$2\frac{1}{4}$ tons at \$8 a ton; \$8 × $2\frac{1}{4}$ =

4. *Remember that to multiply a number by $\frac{1}{2}$ is to get $\frac{1}{2}$ of that number;* to multiply by $\frac{1}{4}$ ————.

5. $10 \times \frac{1}{2}$, means, *$\frac{1}{2}$ of ten.* $10 \times \frac{1}{5}$, means ————.*

6. 10 multiplied by $2\frac{1}{2}$ =

7. 12 multiplied by $2\frac{1}{2}$ =

8. 20 multiplied by $2\frac{1}{2}$ =

9. 30 multiplied by $2\frac{1}{2}$ =

10. $4 \times 2\frac{1}{2}$ = $5 \times 2\frac{1}{2}$ =

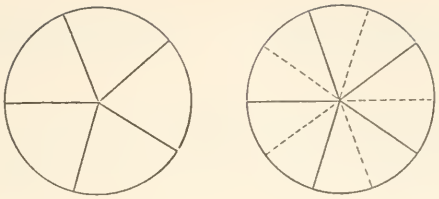
11. $3 \times 2\frac{1}{2}$ = $7 \times 2\frac{1}{2}$ =

12. At \$6 a ton, $2\frac{1}{2}$ tons of coal cost —— dollars.

Copy and divide:

\$4)\$524 \$4)\$564 \$4)\$604 \$4)\$608

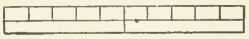
*The sign of multiplication in this book is to be read *multiplied by.*

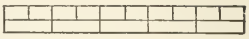


1. One whole is —— tenths.
2. One fifth is —— tenths.
3. Two fifths are —— tenths.
4. Three fifths are —— tenths.
5. Four fifths are —— tenths.
6. One fifth and 1 tenth are —— tenths.
7. One fifth less 1 tenth is —— tenth.
8. Three fifths and 1 tenth are —— tenths.
9. Three fifths less 1 tenth are —— tenths.
10. Four fifths and 1 tenth are —— tenths.
11. Four fifths less 1 tenth are —— tenths.
12. Four fifths and three tenths are —— tenths.
13. Four fifths less 3 tenths are —— tenths.
14. Four times 2 tenths are —— tenths.
15. Three times 3 tenths are —— tenths.
16. Two tenths are contained in 6 tenths —— times.
17. One tenth is contained in 1 fifth —— times.
18. One half of 1 fifth is —— ——.
19. One half of 3 fifths is —— ——.
20. One half of 2 fifths is —— ——.

Copy and divide:

4)$524 4)$564 4)$604 4)$608





1. Sometimes inches are divided into fifths and tenths. Perhaps the teacher can show you a rule so divided.

2. $\frac{1}{5}$ of an inch + $\frac{1}{10}$ of an in. = $3\frac{1}{5} + 2\frac{1}{10} =$

3. $\frac{1}{5}$ of an inch − $\frac{1}{10}$ of an in. = $4\frac{1}{5} - 2\frac{1}{10} =$

4. $\frac{3}{10}$ of an inch × 3 = $2\frac{3}{10} \times 3 =$

5. $2\frac{1}{5}$ in. ÷ $\frac{1}{5}$ of an inch = $1\frac{1}{5} \div \frac{1}{10} =$

6. $6\frac{1}{5}$ in. ÷ 2 = $8\frac{1}{5} \div 2 =$

7. Draw a line 3 inches long; erase from it $1\frac{3}{10}$ inches; the line that is left is —— and —— tenths inches long. $3 - 1\frac{3}{10} =$

8. William drew a square. Each side of it was $1\frac{1}{10}$ inches. We might call it a $1\frac{1}{10}$-inch square. The perimeter of the square was —— and —— —— inches. $1\frac{1}{10} \times 4 =$

9. Egbert had a piece of copper wire $1\frac{1}{2}$ inches long. He divided it into pieces each of which was $\frac{1}{10}$ of an inch long. There were —— pieces. $1\frac{1}{2} \div \frac{1}{10} =$

10. Herbert had a piece of silver wire 1.2 inches long. He divided it into 3 equal parts. Each part was —— —— of an inch long. 1.2 in. ÷ 3 = $1\frac{2}{10}$ in. ÷ 3 =

Copy and add:

$35\frac{1}{5}$	515	617	714	81.4
$24\frac{1}{10}$	607	505	408	30.8

12 sixes are 72 11 sixes are 66
6 twelves are 72 6 elevens are 66

1. Can you add column (a) in fifteen seconds, beginning at the top?

2. Can you add column (a) in fifteen seconds, beginning at the bottom?

3. Practice until you can do this with each column.

a	b	c	d	e
6	2	4	6	6
6	6	6	6	2
6	6	6	6	1
6	6	6	5	3
6	6	6	6	5
6	6	6	6	4
6	6	6	6	6
6	6	6	4	3
6	6	6	6	2
6	6	6	6	5
6	6	6	6	1
6	6	6	3	4
6	6	6	6	6
6	6	6	6	1
6	6	6	6	4
6	6	6	6	5
6	6	6	2	3
1	3	5	6	2
				6
				3
				1
				2
				5
				4
				3

4. Ten sixes are ——.
5. Eleven sixes are ——.
6. Twelve sixes are ——.
7. Twenty sixes are ——.

8. $27 + 6 =$ $37 + 6 =$
9. $17 + 6 =$ $47 + 6 =$
10. $87 + 6 =$ $67 + 6 =$

11. $86 + 6 =$ $46 + 6 =$
12. $36 + 6 =$ $56 + 6 =$
13. $16 + 6 =$ $26 + 6 =$

14. $48 + 6 =$ $58 + 6 =$ $18 + 6 =$
15. $28 + 6 =$ $38 + 6 =$ $68 + 6 =$

Copy and subtract:

$48\frac{1}{5}$	423	532	643	75.2
$23\frac{1}{10}$	165	196	286	28.6

1. 2 is contained in 11 —— times and —— over.
2. 2 is contained in 11 —— and —— —— times.

3. 3 is contained in 13 —— times and —— over.
4. 3 is contained in 13 —— and —— —— times.

5. 3 is contained in 11 —— times and —— over.
6. 3 is contained in 11 —— and —— —— times.

7. 3 is contained in 14 —— times and —— over.
8. 3 is contained in 14 —— and —— —— times.

9. 4 is contained in 17 —— times and —— over.
10. 4 is contained in 17 —— and —— —— times.

11. 4 is contained in 19 —— times and —— over.
12. 4 is contained in 19 —— and —— —— times.

13. 5 is contained in 22 —— times and —— over.
14. 5 is contained in 22 —— and —— —— times.

15. 5 is contained in 33 —— times and —— over.
16. 5 is contained in 33 —— and —— —— times.

17. 5 is contained in 42 —— times and —— over.
18. 5 is contained in 42 —— and —— —— times.

19. 21 is — 5's and —. 22 is — 4's and —.
20. 23 is — 10's and —. 21 is — 2's and —.
21. 22 is — 7's and —. 23 is — 3's and —.
22. 24 is — 7's and —. 24 is — 8's.

Copy and multiply:

44	46	26	64	24
$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$

1. 20 ft. + 17 ft., means ————.
   20 ft. and 17 ft. =
2. 20 ft. − 17 ft., means ————.
   20 ft. less 17 ft. =
3. 20 ft. × 2, means ——. 2 times ————.
4. 20 ft. × $2\frac{1}{2}$, means ——. $2\frac{1}{2}$ times ————.
5. 20 ft. ÷ 4 ft., means ——.
   4 ft. are contained ————.
6. 20 ft. ÷ 4, means ——. $\frac{1}{4}$ of ——.

7. $\frac{1}{2}$ ft. + $\frac{1}{6}$ ft., means ——. $\frac{1}{2}$ ft. and $\frac{1}{6}$ ft. =
8. $\frac{1}{2}$ ft. − $\frac{1}{6}$ ft., means ——. $\frac{1}{2}$ ft. less $\frac{1}{6}$ ft. =
9. $2\frac{1}{6}$ ft. × 4, means ——. 4 times ————.
10. $\frac{1}{2}$ ft. × $2\frac{1}{2}$, means ——. $2\frac{1}{2}$ times ————.
11. $\frac{5}{6}$ ft. ÷ $\frac{2}{6}$ ft., means ——.
    $\frac{2}{6}$ ft. are contained ————.
12. $6\frac{1}{2}$ ft. ÷ 3, means ——. $\frac{1}{3}$ of ————.

13. .8 in. + .4 in., means ————.
    .8 in. and .4 in. =
14. 1.2 in. − .5 in., means ————.
    1.2 in. less .5 in. =
15. 1.2 in. × 3, means ——. 3 times ————.
16. 1.2 in. × $2\frac{1}{2}$, means ——. $2\frac{1}{2}$ times ————.
17. 1.6 in. ÷ .4 in., means ————.
    .4 in. are contained ————.
18 1.6 in. ÷ 4, means ——. $\frac{1}{4}$ of ——.

Copy and divide:

$5)$525 $5)$515 $5)$1025 $5)$1015

Thirty days hath September,
April, June, and November.

Each of the other months has 31 days, except February. February has 29 days in a leap-year and 28 days in all other years.

THIS YEAR.

1. In January there are — weeks and — days.
2. In February there are — weeks and —.
3. In March there are — weeks and — days.
4. In April there are — weeks and — days.
5. In May there are — weeks and — days.
6. In June there are — weeks and — days.
7. In July there are — weeks and — days.
8. In August there are — weeks and — days.
9. In September there are — weeks and — days.
10. In October there are — weeks and — days.
11. In November there are — weeks and — days.
12. In December there are — weeks and — days.

Can you read the 12 statements given above, filling each blank correctly, in 40 seconds? Can you do it if they are put upon the blackboard in some other order? Try it.

13. In February, 1896, there were — weeks and — day.

Copy and divide:

5)$525 5)$515 5)$1025 5)$1015

4 sevens are 28	5 sixes are 30
7 fours are 28	6 fives are 30
4 eights are 32	8 fours are 32

1. Thirty-two pecks are —— bushels.
2. Twenty-four quarts are —— pecks.
3. Twenty-eight days are —— weeks.
4. Twenty-eight fourths are —— wholes.
5. Thirty fifths are —— wholes.
6. 7 bushels are —— pecks. 6 bushels =
7. 4 weeks are —— days. 3 weeks =
8. 10 yards are —— feet. 9 yards =
9. Thirty inches are —— feet and —— inches.
10. Thirty days are —— weeks and —— days.
11. Thirty-one quarts are —— gallons and ——.
12. Thirty-two dimes are —— dollars and ——.
13. Thirty-three pecks are —— bushels and ——.
14. Thirty-four quarts are —— pecks and ——.
15. Four weeks and 3 days are —— days.
16. Ten yards and 2 feet are —— feet.
17. Seven bushels and 3 pecks are —— pecks
18. Two feet and 8 inches are —— inches.
19. Four pecks and 1 quart are —— quarts.
20. Six gallons and 3 quarts are —— quarts

Copy and add:

$24\frac{2}{5}$	345	138	224	27.3
33	226	304	246	30.2
$25\frac{3}{10}$	216	225	108	35.9

1. The sum of \$12 and \$4 is —— dollars.

(a) Find the sum of \$84 and \$43.*

2. The difference of \$12 and \$4 is —— dollars.

(b) Find the difference of \$85 and \$42.

There can be no product of \$8 and \$4.

3. The product of \$8 and 4 is —— dollars.

(c) Find the product of \$82 and 4.

4. The quotient of \$28 divided by \$7 is ——.

(d) Find the quotient of \$628 divided by \$2.

5. The quotient of \$28 divided by 7 is ——.

(e) Find the quotient of \$628 divided by 2.

6. A lady bought 4 yards of gingham at 8¢ a yard; she gave the salesman half a dollar; she should receive in change —— cents.

7. A man paid \$8 for a watch; he paid \$4 for repairing it; he then sold the watch for \$15; he gained —— dollars.

8. Alice paid 8¢ for pens, 5¢ for a pencil and 5¢ for paper. If she gave the salesman 1 fourth of a dollar, how much change should she receive? She should receive ——.

9. Peter had half a dollar; he spent 1 tenth of a dollar; he had —— cents left.

Copy and subtract:

$53\frac{2}{5}$	504	603	705	70.5
$21\frac{3}{10}$	268	377	489	48.9

* Problems designated by letters are for the slate.

1. If I should draw an oblong 4 inches wide and 8 inches long and then divide it into 1-inch squares, there would be —— rows of squares and in each row there would be —— squares.

2. The area of an oblong 4 inches by 8 inches is —— square inches.

3. The perimeter of an oblong 8 inches by 4 inches is —— inches.

4. The first day of August, 1895, was Thursday; the next Thursday was the ——th; the ninth was ——; the seventh was ——.

5. Eight 4-cent stamps cost —— cents.

6. At 5¢ a quart, 6 quarts of milk cost —— cents; 5 quarts cost —— cents.

7. At 4¢ a quart, 7 quarts of milk cost —— cents; $8\frac{1}{2}$ quarts cost —— cents.

8. A man agreed to pay $4 a day for keeping his family at a hotel. One week's board will cost —— dollars.

9. It takes 5 minutes for Alice to go home from school; Mary lives farther away, and it takes her six times as long; it takes Mary —— minutes to go home from school. Alice and Mary started for home at 3:15; Alice reached home at ————: Mary reached home at ————.

Copy and multiply:

56	74	98	58	76
$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$

1.	3 bu. 2 pk. + 4 bu. 1 pk. =	$3\frac{1}{2} + 4\frac{1}{4} =$
2.	4 bu. 3 pk. − 2 bu. 2 pk. =	$4\frac{3}{4} - 2\frac{1}{2} =$
3.	5 bu. 1 pk. × 3 =	$5\frac{1}{4} \times 3 =$
4.	2 bu. 2 pk. × $2\frac{1}{2}$ =	$2\frac{1}{2} \times 2\frac{1}{2} =$
5.	2 bu. 2 pk. ÷ 2 pk. =	$2\frac{1}{2} \div \frac{1}{2} =$
6.	2 pk. ÷ 4 =	$\frac{1}{2} \div 4 =$
7.	\$2.4 + \$3.1 =	$2\frac{2}{5} + 3\frac{1}{10} =$
8.	\$6.8 − \$3.1 =	$6\frac{4}{5} - 3\frac{1}{10} =$
9.	\$5.2 × 4 =	$5\frac{1}{5} \times 4 =$
10.	\$4.2 × $2\frac{1}{2}$ =	$4\frac{1}{5} \times 2\frac{1}{2} =$
11.	\$3.6 ÷ \$.6 =	$3\frac{3}{5} \div \frac{3}{5} =$
12.	\$3.6 ÷ 3 =	$3\frac{3}{5} \div 3 =$

13. The long hand of a clock moves from X to XII in —— minutes; from VI to X in —— minutes.

14. The short hand of a clock moves from IX to XI in —— ——; from IV to VIII in —— ——.

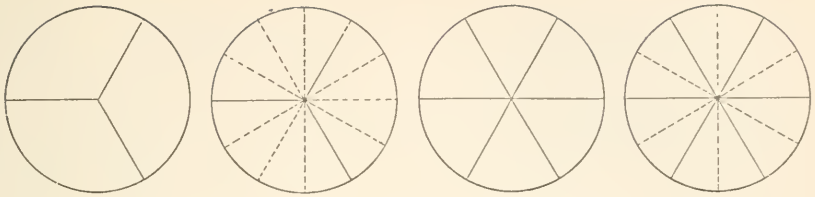
15. The best trains go from Waukegan to Chicago in 50 minutes; such a train leaving Waukegan at 10:30 should arrive in Chicago at ————.

16. A train from Aurora was due in Chicago at 2:15; it arrived at 2:45; it was —— minutes late.

17. From 1:30 to 2:45 it is —— hour and —— minutes.

Copy and divide:

\$5)\$630 \$5)\$620 \$5)\$610 \$5)\$640



1. One third is —— twelfths.
2. One sixth is —— twelfths.
3. Two thirds are —— twelfths.
4. Two sixths are —— twelfths.
5. Three sixths are —— twelfths.

6. One third and 1 twelfth are —— twelfths.
7. One third less 1 twelfth are —— twelfths.
8. One sixth and 1 twelfth are —— twelfths.
9. One sixth less 1 twelfth is —— twelfth.
10. Five sixths and 1 twelfth are —— twelfths.
11. Five sixths less 1 twelfth are —— twelfths.
12. Seven twelfths and 1 sixth are —— twelfths.
13. Seven twelfths and 1 third are —— twelfths.
14. Two times 5 twelfths are —— twelfths.
15. Three times 5 twelfths are ————.
16. Two twelfths are contained in 1 half —— times.
17. Two twelfths are contained in 1 whole ————.

18. One half of 1 sixth is —— ——.
19. One fourth of 1 third is —— ——.

Copy and divide:

5)$630 5)$620 5)$610 5)$640

1. One inch is —— —— of a foot.
2. Two inches are —— —— of a foot.
3. Three inches are —— —— of a foot.
4. Four inches are —— —— of a foot.
5. Five inches are —— —— of a foot.
6. Six inches are —— —— of a foot.
7. Seven inches are —— —— of a foot.
8. Eight inches are —— —— of a foot.
9. Nine inches are —— —— of a foot.
10. Ten inches are —— —— of a foot.

11. $\frac{1}{3}$ of a ft. + $\frac{1}{12}$ of a ft. = $3\frac{1}{3} + 3\frac{1}{12} =$
12. $\frac{1}{3}$ of a ft. − $\frac{1}{12}$ of a ft. = $4\frac{1}{3} - 2\frac{1}{12} =$
13. $\frac{5}{12}$ of a ft. × 2 = $6\frac{5}{12} \times 2 =$
14. $1\frac{1}{6}$ ft. ÷ $\frac{1}{6}$ of a ft. = $1\frac{1}{6} \div \frac{1}{12} =$
15. $6\frac{1}{3}$ ft. ÷ 2 = $6\frac{1}{6} \div 2 =$

16. Draw a line $3\frac{1}{6}$ ft. long; draw another line $4\frac{5}{12}$ ft. long; together the lines are —— and —— —— feet long. $3\frac{1}{6} + 4\frac{5}{12} =$

17. Draw a line 3 ft. long; erase from it $1\frac{5}{12}$ feet; the line that is left is —— and —— —— feet long. $3 - 1\frac{5}{12} =$

18. Henry drew a $1\frac{1}{4}$-foot square. The perimeter of the square was ————. $1\frac{1}{4} \times 4 =$

Copy and add:

$35\frac{1}{4}$	352	240	302	45.3
23	143	175	184	30.1
$35\frac{1}{12}$	262	233	231	25.2

12 sevens are 84 — 11 sevens are 77
7 twelves are 84 — 7 elevens are 77

1. Can you add column (a) in fifteen seconds, beginning at the top?

2. Can you add column (a) in fifteen seconds, beginning at the bottom?

3. Practice until you can do this with each column.

4. Ten sevens are ——.
5. Eleven sevens are ——.
6. Twelve sevens are ——.
7. Twenty sevens are ——.

8. $27 + 7 =$ $17 + 7 =$
9. $37 + 7 =$ $57 + 7 =$
10. $46 + 7 =$ $16 + 7 =$
11. $26 + 7 =$ $56 + 7 =$
12. $38 + 7 =$ $18 + 7 =$
13. $48 + 7 =$ $28 + 7 =$
14. $25 + 7 =$ $15 + 7 =$
15. $65 + 7 =$ $45 + 7 =$

a	b	c	d	e
7	2	4	6	7
7	7	7	7	2
7	7	7	7	1
7	7	7	7	5
7	7	7	7	4
7	7	7	7	6
7	7	7	7	3
7	7	7	7	4
7	7	7	7	2
7	7	7	7	5
7	7	7	7	3
7	7	7	7	7
7	7	7	7	6
7	7	7	7	1
7	7	7	7	4
1	3	5	7	5
				2
				1
				3
				7
				4
				6
				5

$35 + 7 =$ $75 + 7 =$

Copy and subtract:

$65\frac{1}{4}$	640	560	470	38
$32\frac{1}{12}$	236	345	134	14.6

1. 5 is contained in 11 —— times and —— over.
2. 5 is contained in 11 —— and —— —— times.

3. 5 is contained in 12 —— times and —— over.
4. 5 is contained in 12 —— and —— —— times.

5. 5 is contained in 13 —— times and —— over.
6. 5 is contained in 13 —— and —— —— times.
7. 5 is contained in 14 —— and —— —— times.
8. 5 is contained in 23 —— and —— —— times.

9. 5 is contained in 28 —— and —— —— times.
10. 5 is contained in 33 —— and —— —— times.
11. 5 is contained in 37 —— and —— —— times.
12. 5 is contained in 41 —— and —— —— times.
13. 5 is contained in 48 —— and —— —— times.

14. When milk costs 2¢ a pint, for 7¢ I can buy —— and —— —— pints. $7¢ \div 2¢ =$

15. When ribbon costs 3¢ a yard, for 10¢ I can buy —— and —— —— yards. $10¢ \div 3¢ =$

16. When milk is 4¢ a quart, for 10¢ I can buy —— and —— —— quarts. $10¢ \div 4¢ =$

17. 30 is — 7's and —. 30 is — 9's and —.
18. 30 is — 4's and —. 31 is — 6's and —.
19. 32 is — 5's and —. 32 is — 3's and —.

Copy and multiply:

28	38	48	68	78
$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$

1. 30 min. + 15 min., means ————.
   30 min. and 15 min. =
2. 30 min. − 15 min., means ————.
   30 min. less 15 min. =
3. 12 min. × 2, means ——. 2 times ———.
4. 12 min. × $2\frac{1}{2}$, means ——. $2\frac{1}{2}$ times ——.
5. 30 min. ÷ 5 min., means ————.
   5 min. are contained ————.
6. 30 min. ÷ 5, means ——. $\frac{1}{5}$ of ————.

7. $\frac{1}{2}$ ft. + $\frac{5}{12}$ ft., means ————.
   $\frac{1}{2}$ ft. and $\frac{5}{12}$ ft. =
8. $\frac{1}{2}$ ft. − $\frac{5}{12}$ ft., means ————.
   $\frac{1}{2}$ ft. less $\frac{5}{12}$ ft. =
9. $3\frac{1}{12}$ ft. × 5, means ——. 5 times ———.
10. 6 ft. × $2\frac{1}{2}$, means ——. $2\frac{1}{2}$ times ———.
11. $2\frac{1}{12}$ ft. ÷ $\frac{1}{12}$ ft., means ——. $\frac{1}{12}$ ft. is ——.
12. $8\frac{1}{6}$ ft. ÷ 2, means ——. $\frac{1}{2}$ of ————.

13. \$.7 + \$.5, means ——. \$.7 and \$.5 =
14. \$1.5 − \$.8, means ——. \$1.5 less \$.8 =
15. \$1.2 × 4, means ——. 4 times ————.
16. \$.6 × $2\frac{1}{2}$, means ——. $2\frac{1}{2}$ times ————.
17. \$2.4 ÷ \$.6, means ——. \$.6 are ————.
18. \$2.4 ÷ 6, means ——. $\frac{1}{6}$ of ————.

19. From 9:10 to 9:35 it is —— minutes.
20. From 9:50 to 10:10 it is —— minutes.

Copy and divide:

2 lb.)45 lb. 2 lb.)63 lb. 2 lb.)87 lb. 2 lb.)29 lb.

1. What day of the week is it? To-day is ————. Two weeks from to-day will be ————. Four weeks from to-day will be ————. Four weeks and 1 day from to-day will be ————. Twenty-nine days from to-day will be ————. Thirty days from to-day will be ————. Four weeks and three days from to-day will be ————. Thirty-one days from to-day will be ————.

2. From January 1st to February 1st it is —— days.

From February 1st to March 1st it is —— days.

From March 1st to April 1st it is —— days.

From April 1st to May 1st it is —— days.

From May 1st to June 1st it is —— days.

3. The year 1896 was a leap-year. February, 1896, had —— days.

4. January 1st, 1896, was Wednesday; February 1st, 1896, was ————.

5. August 1st, 1896, was Saturday; September 1st, 1896, was ————.

6. February 1st, 1896, was Saturday; March 1st, 1896, was ————.

7. September 1st, 1896, was Tuesday; October 1st, 1896, was ————.

Copy and divide:

2)45 lb. 2)63 lb. 2)87 lb. 2)29 lb.

5 sevens are 35 4 nines are 36
7 fives are 35 9 fours are 36
6 sixes are 36

1. Thirty-six pecks are —— bushels.
2. Thirty-five days are —— weeks.
3. Thirty-six spoons are —— sets.
4. Thirty-five fifths are —— wholes.
5. Thirty-six ninths are —— wholes.
6. 9 gallons are —— quarts. 8 gallons =
7. 5 weeks are —— days. 4 weeks =

8. Thirty-seven inches are —— feet and ——.
9. Thirty-eight days are —— weeks and ——.
10. Thirty-nine quarts are —— gallons and ——.

11. Five weeks and 2 days are —— days.
12. Three feet and 3 inches are —— inches.
13. Nine bushels and 1 peck are —— pecks.

14. $2\frac{2}{3}$ are —— thirds. $3\frac{2}{3}$ are —— thirds.
15. $2\frac{3}{4}$ are —— fourths. $3\frac{3}{4}$ are —— fourths.
16. $2\frac{2}{5}$ are —— fifths. $3\frac{2}{5}$ are —— fifths.
17. $2\frac{3}{5}$ are —— fifths. $3\frac{3}{5}$ are —— fifths.
18. $1\frac{1}{3}$ are —— thirds. $4\frac{2}{3}$ are —— thirds.
19. $4\frac{1}{4}$ are —— fourths. $4\frac{3}{4}$ are —— fourths.

Copy and add:

$32\frac{3}{4}$	304	425	356	24.7
23	240	106	114	10.2
$26\frac{1}{12}$	158	232	205	33.4

1. Add 6 bu., 4 bu., 2 bu., and 1 bu.
(a) Add 344 bu., 46 bu., and 35 bu.

2. From 19 bushels subtract 6 bushels.
(b) From 472 bushels subtract 146 bushels.

3. Multiply 9 bushels by 4.
(c) Multiply 292 bushels by 3.

4. Divide 35 bushels by 5 bushels.
(d) Divide 525 bushels by 5 bushels.

5. Divide 35 bushels by 5.
(e) Divide 525 bushels by 5.

6. At \$3 a barrel, 8 barrels of apples cost ——.
(f) At \$236 an acre, 2 acres of land cost ——.

7. Two thirds of 12 dollars are —— dollars.
(g) Two thirds of 99 dollars are —— dollars.
(h) Two thirds of 96 dollars are —— dollars.

8. Twelve dollars are $\frac{2}{3}$ of —— dollars.
(i) Forty-four dollars are $\frac{2}{3}$ of —— dollars.
(j) Forty-six dollars are $\frac{2}{3}$ of —— dollars.

9. A lady bought 8 yards of lace at \$2 a yard; she gave the salesman two ten-dollar bills; she should receive in change —— dollars.

Copy and subtract:

$46\frac{3}{4}$	475	565	455	35.5
$23\frac{1}{12}$	235	236	237	12.8

1. Think of an oblong 5 inches by 7 inches. Think of it divided into 1-inch squares. The area of the oblong is —— —— square inches.

2. The perimeter of an oblong 5 inches by 7 inches is —— inches.

3. The first day of September, 1895, was Sunday; the second Sunday was the ——th; the third Sunday was the ——; the fourth Sunday was the ——; the fifth Sunday was the ——.

4. The first Sunday of August, 1895, was the fourth day of the month; the second Sunday was the ——th; the third Sunday was the ——th; the fourth Sunday was the ——th.

5. The Saturdays of August, 1895, were the 3d, ——, ——, ——, and ——.

6. A passenger train runs from Waukegan to Lake Forest in 15 minutes. If the train leaves Waukegan at 9:50 it should reach Lake Forest at ——.

7. John rode 32 miles in 4 hours; he rode at the rate of ———— miles an hour. 32 miles ÷ 4 =

8. Henry rode 33 miles in 4 hours; he rode at the rate of ———— miles an hour. 33 miles ÷ 4 =

Copy and multiply:

45	65	85	25	47
$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$

1. 3 ft. 6 in. + 3 ft. 7 in. = $3\frac{1}{2} + 3\frac{7}{12} =$
2. 3 ft. 6 in. − 1 ft. 4 in. = $3\frac{1}{2} - 1\frac{1}{3} =$
3. 4 ft. 8 in. × 4 = $4\frac{2}{3} \times 4 =$
4. 4 ft. 6 in. ÷ 6 in. = $4\frac{1}{2} \div \frac{1}{2} =$
5. 4 ft. 6 in. ÷ 2 = $4\frac{1}{2} \div 2 =$

6. The letters A.M. stand for the words *ante meridiem*. These words mean *before noon*.

7. The letters P.M. stand for the words *post meridiem*. These words mean *after noon*.

8. From 10 o'clock A.M. to 2 o'clock P.M. it is —— hours.

9. From 9 o'clock P.M. to 4 o'clock A.M. it is —— hours.

10. From 4:30 P.M. to 6:30 P.M. it is ————.

11. Mr. Smith begins work at 7 o'clock A.M.; he has one hour for dinner and rest at noon, and then works until 6 o'clock P.M. Each day he works —— hours.

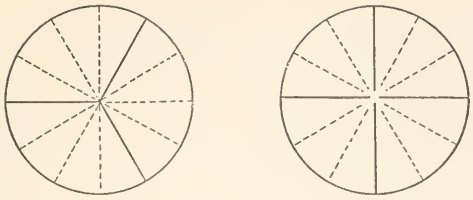
12. A train from Chicago was due in Waukegan at 10:45; it arrived at 11:10; it was —— minutes late.

13. A train moved 30 miles in 1 hour; this was at the rate of 1 mile in —— minutes.

14. A train moved at the rate of 40 miles an hour for 2 hours and 30 minutes; it moved —— miles.

Copy and divide:

3 lb.)67 lb. 3 lb.)97 lb. 3 lb.)37 lb. 3 lb.)38 lb.



1. One third is —— twelfths.
2. One fourth is —— twelfths.
3. Two thirds are —— twelfths.
4. Three fourths are —— twelfths.

5. Add 1 fourth and 1 third.
   1 fourth is —— twelfths.
   1 third is —— twelfths.
—— twelfths and —— twelfths are —— twelfths.

6. Add 2 thirds and 1 fourth.
   2 thirds are —— twelfths.
   1 fourth is —— twelfths.
—— twelfths and —— twelfths are —— twelfths.

7. From 3 fourths subtract 1 third.
   3 fourths are —— twelfths.
   1 third is —— twelfths.
—— twelfths less —— twelfths are —— twelfths.

8. One fourth of a foot and 1 third of a foot are —— twelfths of a foot.

Copy and divide:

3)67 lb. 3)97 lb. 3)37 lb. 3)38 lb.

— lb.

1. $\frac{1}{3}$ of a dozen + $\frac{1}{4}$ of a dozen = $\frac{1}{3} + \frac{1}{4} =$
2. $\frac{1}{3}$ of a dozen − $\frac{1}{4}$ of a dozen = $\frac{1}{3} - \frac{1}{4} =$
3. $\frac{1}{3}$ of a dozen × 6 = $\frac{1}{3} \times 6 =$
4. $\frac{1}{3}$ of a dozen × $6\frac{1}{2}$ = $\frac{1}{3} \times 6\frac{1}{2} =$
5. $\frac{1}{3}$ of a dozen ÷ $\frac{1}{12}$ of a dozen = $\frac{1}{3} \div \frac{1}{12} =$
6. $\frac{1}{3}$ of a dozen ÷ 4 = $\frac{1}{3} \div 4 =$

7. Draw a line $2\frac{1}{3}$ feet long; draw another line $2\frac{1}{4}$ feet long; together the lines are —— and —— —— feet long. $2\frac{1}{3} + 2\frac{1}{4} =$

8. Draw a line 4 feet long; erase from it $1\frac{5}{12}$ feet; the line that is left is —— and —— —— feet long. $4 - 1\frac{5}{12} =$

9. James drew a square. Each side of it was $1\frac{1}{12}$ feet long. We might call it a $1\frac{1}{12}$-foot square. The perimeter of the square was —— and —— —— feet. $1\frac{1}{12} \times 4 =$

10. Peter had a piece of copper wire $1\frac{1}{3}$ feet long. He divided it into pieces, each of which was $\frac{1}{6}$ of a foot long. There were —— pieces. $1\frac{1}{3} \div \frac{1}{6} =$

11. Harry had a piece of silver wire $1\frac{1}{3}$ feet long. He divided it into 2 equal pieces. Each piece was —— —— of a foot long. $1\frac{1}{3} \div 2 =$

12. $1\frac{1}{6}$ feet ÷ $\frac{1}{6}$ of a foot = $1\frac{1}{6}$ feet ÷ 2 =
13. $1\frac{1}{2}$ feet ÷ $\frac{1}{6}$ of a foot = $1\frac{1}{2}$ feet ÷ 2 =

Copy and add:

$43\frac{1}{4}$	414	524	335	31.6
22	306	207	407	41.6
$31\frac{5}{12}$	412	623	502	51.6

12 eights are 96 11 eights are 88
8 twelves are 96 8 elevens are 88

1. Can you add column (a) in fifteen seconds, beginning at the top?

2. Can you add column (a) in fifteen seconds, beginning at the bottom?

3. Practice until you can do this with each column.

4. Ten eights are ——.
5. Eleven eights are ——.
6. Twelve eights are ——.
7. Twenty eights are ——.

a	b	c	d	e
8	2	4	6	8
8	8	8	8	2
8	8	8	8	7
8	8	8	8	6
8	8	8	8	3
8	8	8	8	5
8	8	8	8	1
8	8	8	8	4
8	8	8	8	8
8	8	8	8	6
8	8	8	8	2
8	8	8	8	7
8	8	8	8	3
1	3	5	7	4
				5
				2
				1
				8
				2
				6
				7
				5

8. $27 + 8 =$ $17 + 8 =$
9. $37 + 8 =$ $57 + 8 =$
10. $46 + 8 =$ $16 + 8 =$
11. $26 + 8 =$ $56 + 8 =$
12. $38 + 8 =$ $18 + 8 =$ $58 + 8 =$
13. $48 + 8 =$ $28 + 8 =$ $78 + 8 =$
14. $25 + 8 =$ $15 + 8 =$ $35 + 8 =$
15. $65 + 8 =$ $55 + 8 =$ $75 + 8 =$

Copy and subtract:

$48\frac{3}{4}$	444	554	464	47.4
$26\frac{5}{12}$	125	126	127	12.8

1. 6 is contained in 13 —— times and —— over.
2. 6 is contained in 13 —— and —— —— times.

3. 6 is contained in 14 —— times and —— over.
4. 6 is contained in 14 —— and —— —— times.

5. 6 is contained in 15 —— times and —— over.
6. 6 is contained in 15 —— and —— —— times.

7. 6 is contained in 16 —— times and —— over.
8. 6 is contained in 16 —— and —— —— times.

9. 6 is contained in 17 —— times and —— over.
10. 6 is contained in 17 —— and —— —— times.

11. 6 is contained in 25 —— and —— —— times.
12. 6 is contained in 20 —— and —— —— times.
13. 6 is contained in 34 —— and —— —— times.

14. When milk costs 6¢ a quart, for 27¢ I can buy —— and —— —— quarts. $27¢ \div 6¢ =$

15. If books cost 6¢ each, with 27¢ I can buy —— books and have —— cents left. $27¢ \div 6¢ =$

16. When milk costs 6¢ a quart, for 33¢ I can buy —— and —— —— quarts. $33¢ \div 6¢ =$

17. If books cost 6¢ each, with 33¢ I can buy —— books and have —— cents left. $33¢ \div 6¢ =$

Copy and multiply:

36	39	33	63	66
$2\frac{1}{3}$	$2\frac{1}{3}$	$2\frac{1}{3}$	$2\frac{1}{3}$	$2\frac{1}{3}$

1. $.8 + $.6, means ——. $.8 and $.6 =
2. $1.6 − $.9, means ——. $1.6 less $.9 =
3. $1.5 × 4, means ——. 4 times $1.5 =
4. $.8 × $2\frac{1}{2}$, means ——. $2\frac{1}{2}$ times ——.
5. $2.4 ÷ $.8, means ——. $.8 are ——.
6. $2.4 ÷ 8, means ——. $\frac{1}{8}$ of ——.
7. I can change fourths to 8ths, to ——, to ——, ——.
8. One fourth is —— twentieths. $\frac{1}{4}$ is —— twenty-fourths. $\frac{1}{4}$ is —— thirty-seconds.
9. I can change fifths to 10ths, to ——, to ——, ——.
10. One fifth is —— twenty-fifths. $\frac{1}{5}$ is —— thirtieths. $\frac{2}{5}$ are —— twenty-fifths.
11. George had a quarter of a dollar; he spent 1 tenth of a dollar; he had —— cents left.
12. Richard played ball half an hour, and he played "hide and seek" 10 minutes; in all he played —— minutes.
13. Helen practiced her music lesson from 7:30 to 8:45; she practiced —— hour and —— minutes.
14. $3\frac{1}{2}$ are —— halves. $4\frac{1}{2}$ are —— ——.
15. $3\frac{1}{3}$ are —— thirds. $4\frac{1}{3}$ are —— ——.
16. $3\frac{1}{4}$ are —— fourths. $4\frac{1}{4}$ are —— ——.
17. $3\frac{1}{5}$ are —— fifths. $4\frac{1}{5}$ are —— ——.

Copy and divide:

3 qt.)64 qt. 3 qt.)65 qt. 3 qt.)94 qt. 3 qt.)95 qt.

1. What day of the week is it? To-day is ——. Fourteen days from to-day will be ——. Fifteen days from to-day will be ——. Thirteen days from to-day will be ——.

2. January 1st, 1898, was Saturday; February 1st was ——; March 1st was ——; April 1st was ——.

3. John lives 2 miles from the schoolhouse; Peter lives 1 and 3 tenths miles from the schoolhouse. How much farther is John's home from the schoolhouse than Peter's? It is ——————.

4. Harvey rode on his bicycle 2 and 3 tenths miles; Ernest rode 3 times as far; Ernest rode ——————.

5. One fourth of 12.8 miles is ——————.

6. Three fourths of 12.8 miles are ——————.

7. Twelve and 4 tenths miles are two thirds of —————— miles.

8. Twelve and 4 tenths miles are one half of —————— miles.

9. I am thinking of an oblong whose area is 12 square inches. It is 6 inches long. It is —— inches wide.

10. I am thinking of an oblong whose area is 15 square inches. It is 5 inches long. It is —— inches wide.

Copy and divide:

3)64 qt. 3)65 qt. 3)94 qt. 3)95 qt.

5 eights are 40	6 sevens are 42
8 fives are 40	7 sixes are 42
5 nines are 45	9 fives are 45

1. Forty quarts are —— pecks.
2. Forty-two days are —— weeks.
3. Forty-two spoons are —— sets.
4. Forty-five ninths are —— wholes.

5. 10 gallons are —— quarts. 9 gallons =
6. 6 weeks are —— days. 5 weeks =

7. Forty inches are —— feet and ——.
8. Forty-five days are —— weeks and ——.
9. Forty-six quarts are —— gallons and ——

10. Six weeks and 4 days are —— days.
11. Three feet and 7 inches are —— inches.
12. Eleven bushels and 1 peck are —— pecks.

13. $2\frac{1}{6}$ are —— sixths. $3\frac{1}{6}$ are —— sixths.
14. $4\frac{1}{6}$ are —— sixths. $5\frac{1}{6}$ are —— sixths.

Read first by column, then by line.

3 2's are ——.	3 3's are ——.	3 4's are ——.
3 5's are ——.	3 6's are ——.	3 7's are ——.
3 8's are ——.	3 9's are ——.	3 10's are ——.

Copy and add:

$53\frac{1}{2}$	522	431	353	48.2
21	643	603	505	30.3
$52\frac{3}{8}$	281	294	661	42.1

1. Add 2 ft. 10 in. and 4 ft. 5 in.

(a) Add 146 ft. 10 in. and 83 ft. 6 in.

2. From 16 subtract the sum of 4 and 8.

(b) From 256 subtract the sum of 47 and 38.

3. Multiply 2 ft. 3 in. by 5.

(c) Multiply 53 ft. 4 in. by 5.

4. Divide 42 feet by 6 feet.

(d) Divide 444 feet by 6 feet.

5. Divide 42 feet by 6.

(e) Divide 444 feet by 6.

6. At \$5 a ton, 9 tons of coal cost ————.

(f) At \$125 each, 3 horses cost ————.

7. Three fourths of 12 dollars are —— dollars.

(g) Three fourths of 120 dollars are —— dollars.

8. Twelve dollars are $\frac{3}{4}$ of —— dollars.

(h) One hundred and twenty dollars are $\frac{3}{4}$ of —— dollars.

9. A lady bought 9 curtains at \$5 each; she gave the salesman 5 ten-dollar bills; she should receive in change —— ——.

(i) A gentleman bought 4 horses at \$120 each; he gave in payment 5 one-hundred-dollar bills; he should receive in change —— dollars.

Copy and subtract:

$87\frac{1}{2}$	436	526	636	34.6
$24\frac{3}{8}$	208	319	117	12.8

1. Think of an oblong 3 feet by 10 feet. Think of it divided into 1-foot squares. The area of the oblong is —— square feet.

2. The perimeter of an oblong 3 feet by 10 feet is —— feet.

3. Think of a floor 6 ft. by 7 ft. Think of it divided into 1-foot squares. The area of a floor 6 ft. by 7 ft. is —— square feet.

4. The perimeter of a floor 6 ft. by 7 ft. is —— feet.

5. The first day of October, 1895, was Tuesday; the second Tuesday of October was the ——th day of the month; the third Tuesday was the ——th; the fourth Tuesday was the ——; the fifth Tuesday was the ——.

6. The Mondays of September, 1895, were the 2nd, ——, ——, ——, and ——.

7. Harry rode 45 miles in 5 hours; he rode at the rate of —— miles an hour. $45 \div 5 =$

8. James rode 46 miles in 5 hours; he rode at the rate of —— miles an hour. $46 \div 5 =$

9. Richard rode 48 miles in 5 hours; he rode at the rate of —— miles an hour. $48 \div 5 =$

10. At 20¢ a peck, 3 pecks of apples cost —— cents; $8\frac{1}{2}$ pecks cost ————.

Copy and multiply:

$63\frac{1}{2}$	$52\frac{1}{2}$	$74\frac{1}{2}$	$83\frac{1}{2}$	$92\frac{1}{2}$
2	2	2	2	2

1. A year that is not a leap-year is sometimes called a common year. In a common year there are 365 days. 365 days ÷ 7 days = ——. In a common year there are —— weeks and —— day.

2. If the first day of a common year is Monday, the first day of the next year will be ————.

3. We may think of a year as beginning at any time and ending on the same day of the same month of the next year; thus, it is a year from April 10, 1894, to April 10, 1895; it is a year from May 4, 1895, to May 4, 1896.

4. Any year in which there is a February 29th contains 366 days; all other years contain ——.

5. From February 10th of a leap-year to February 10th of the next year it is —— days. 366 days ÷ 7 days =

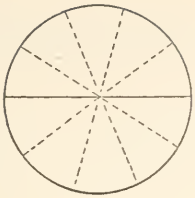
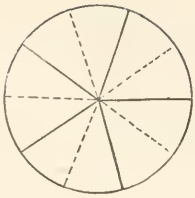
6. If February 10th of a common year is Wednesday, February 10th of the next year will be ————.

7. If February 10th of a leap-year is Wednesday, February 10th of the next year will be ————.

8. From March 1st of a leap-year to March 1st of the next year it is —— days. If March 1st of a leap-year is Monday, March 1st of the next year will be ————.

Copy and divide:

4¢)56¢ 4¢)96¢ 4¢)64¢ 4¢)104¢

1. One half is —— tenths.
2. One fifth is —— tenths.
3. Three fifths are —— tenths.
4. Two fifths are —— tenths.
5. Four fifths are —— tenths.
6. Add 1 half and 1 fifth.

1 half is —— tenths.
1 fifth is —— tenths.
—— tenths and —— tenths are —— tenths.

7. Add 2 fifths and 1 half.

2 fifths are —— tenths.
1 half is —— tenths.
—— tenths and —— tenths are —— tenths.

8. From 4 fifths subtract 1 half.

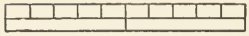
4 fifths are —— tenths.
1 half is —— tenths.
—— tenths less —— tenths are —— tenths.

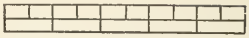
9. One fifth of a dollar and 1 half of a dollar are —— tenths of a dollar.

Copy and divide:

$4\overline{)56¢}$ $4\overline{)96¢}$ $4\overline{)64¢}$ $4\overline{)104¢}$

—¢





1. $\frac{1}{2}$ of an inch + $\frac{1}{5}$ of an inch = $\frac{1}{2} + \frac{1}{5} =$
2. $\frac{1}{2}$ of an inch − $\frac{1}{5}$ of an inch = $\frac{1}{2} - \frac{1}{5} =$
3. $\frac{1}{5}$ of an inch × 2 = $\frac{1}{5} \times 2 =$
4. $\frac{1}{5}$ of an inch × $2\frac{1}{2}$ = $\frac{1}{5} \times 2\frac{1}{2} =$
5. 5 inches ÷ $\frac{1}{2}$ of an inch = $5 \div \frac{1}{2} =$
6. $\frac{1}{2}$ of an inch ÷ 5 = $\frac{1}{2} \div 5 =$

7. Draw a line $3\frac{1}{2}$ inches long; erase from it $2\frac{1}{5}$ inches; the line that is left is —— and —— —— inches long. $3\frac{1}{2} - 2\frac{1}{5} =$

8. Draw a line $3\frac{1}{2}$ inches long; erase from it $1\frac{1}{5}$ inches; the line that is left is —— and —— —— inches long. $3\frac{1}{2} - 1\frac{1}{5} =$

9. Harry drew an oblong; it was $1\frac{1}{5}$ inches wide and $1\frac{1}{2}$ inches long; its perimeter was —— and —— —— inches.

10. Arthur had a piece of silver wire; it was $1\frac{1}{2}$ inches long; he wished to divide into pieces $\frac{1}{5}$ of an inch long; he could make —— such pieces and have —— —— of an inch left.

11. James had a piece of copper wire; it was 1.5 inches long; he divided it into three equal pieces; each piece was —— long.

Copy and add:

$24\frac{1}{2}$	324	136	252	20.5
32	163	252	347	34.2
$21\frac{1}{5}$	245	344	142	61.6

12 nines are 108 — 11 nines are 99
9 twelves are 108 — 9 elevens are 99

1. Can you add column (a) in fifteen seconds, beginning at the top?

2. Can you add column (a) in fifteen seconds, beginning at the bottom?

3. Practice until you can do this with each column.

a	b	c	d	e
9	2	4	6	9
9	9	9	9	6
9	9	9	9	9
9	9	9	9	7
9	9	9	9	9
9	9	9	9	8
9	9	9	9	9
9	9	9	9	1
9	9	9	9	9
9	9	9	9	2
9	9	9	9	9
9	9	9	9	3
1	3	5	7	9
				4
				9
				5
				9
				6
				9

4. Ten nines are ——.
5. Eleven nines are ——.
6. Twelve nines are ——.
7. Twenty nines are ——.

8. $27 + 9 =$ $17 + 9 =$
9. $37 + 9 =$ $57 + 9 =$

10. $46 + 9 =$ $16 + 9 =$ $85 + 9 =$
11. $26 + 9 =$ $56 + 9 =$ $73 + 9 =$

12. $38 + 9 =$ $18 + 9 =$ $47 + 9 =$
13. $48 + 9 =$ $28 + 9 =$ $64 + 9 =$

14. $25 + 9 =$ $15 + 9 =$ $35 + 9 =$
15. $65 + 9 =$ $45 + 9 =$ $75 + 9 =$

Copy and subtract:

$75\frac{1}{2}$	370	640	750	84
$32\frac{1}{5}$	128	239	347	31.6

1. 7 is contained in 15 —— times and —— over.
2. 7 is contained in 15 —— and —— —— times.

3. 7 is contained in 16 —— times and —— over.
4. 7 is contained in 16 —— and —— —— times.

5. 7 is contained in 18 —— times and —— over.
6. 7 is contained in 18 —— and —— —— times.

7. 7 is contained in 23 —— times and —— over.
8. 7 is contained in 23 —— and —— —— times.

9. 7 is contained in 30 —— times and —— over.
10. 7 is contained in 30 —— and —— —— times.

11. 7 is contained in 38 —— and —— —— times.
12. 7 is contained in 43 —— and —— —— times.

13. 7 is contained in 45 —— and —— —— times.
14. 7 is contained in 40 —— and —— —— times.
15. 7 is contained in 50 —— and —— —— times.

16. When milk is 7¢ a quart, for 18¢ I can buy —— and —— —— quarts. $18¢ \div 7¢ =$

Read first by column, then by line.

4 2's are ——. 4 5's are ——. 4 8's are ——.
4 3's are ——. 4 6's are ——. 4 9's are ——.
4 4's are ——. 4 7's are ——. 4 10's are ——.

Copy and multiply:

$43\frac{1}{2} \times 3$ $54\frac{1}{2} \times 3$ $72\frac{1}{2} \times 3$ $61\frac{1}{2} \times 3$ $92\frac{1}{2} \times 3$

1. If a man's wages are $40 for 5 weeks, in one week he earns —— dollars.

(a) If a man's wages are $215 for 5 months, how much does he earn in one month?

2. If 6 barrels of flour are worth $30, 2 barrels are worth —— dollars.

(b) If 6 acres of land are worth $264, how much are 2 acres worth?

3. At 4¢ each, for 32¢ I can buy —— pencils.

(c) At 4¢ each, how many pencils can be bought for $8.24?

4. Forty-eight quarts are —— gallons.

(d) How many gallons are 572 quarts?

5. Eighty pints are —— gallons.

(e) How many gallons are 440 pints?

6. A grocer sold 2 barrels of apples at $2.30 each; he received for them ————.

(f) A farmer sold 8 barrels of apples at $2.30 each. How much should he receive for them?

Read first by column, then by line.

5 2's are ——.	5 5's are ——.	5 8's are ——.
5 3's are ——.	5 6's are ——.	5 9's are ——.
5 4's are ——.	5 7's are ——.	5 10's are ——.

Copy and divide:

5¢)65¢	5¢)115¢	5¢)75¢	5¢)125¢
— times			

1. January 1st, 1897, was Friday. January 1st, 1898, was ——. January 1st, 1899, was ——.

2. July 4th, 1897, was Sunday. July 4th, 1898, was ——. July 4th, 1899, was ——.

3. December 25th, 1897, was Saturday. December 25th, 1898, was ——. December 25th, 1899, was ——.

4. A man paid 6 hundred dollars for a piece of land; he spent 1 hundred dollars in improving it, and sold it for 9 hundred dollars; he gained —— hundred dollars.

(a) A man paid 614 dollars for a piece of land; he spent 136 dollars in improving it, and sold it for 975 dollars; he gained —— ——.

5. A man paid 5 hundred dollars for a house; he paid 1 hundred dollars for repairing it; he sold the house for 8 hundred dollars; he gained —— hundred dollars.

6. Mary bought 5¢ worth of pens, 10¢ worth of paper, and 3¢ worth of gum; if she gave the salesman a quarter of a dollar, how much change should she receive?

7. Peter rode 36 miles in 4 hours; he rode at the rate of —— miles per hour. $36 \div 4 =$

8. Paul rode 37 miles in 4 hours; he rode at the rate of —— miles per hour. $37 \div 4 =$

Copy and divide:

$5\overline{)65¢}$ $5\overline{)115¢}$ $5\overline{)75¢}$ $5\overline{)125¢}$

6 eights are 48 6 nines are 54
8 sixes are 48 9 sixes are 54
7 eights are 56 8 sevens are 56
7 sevens are 49

1. Forty-eight quarts are —— pecks.
2. Forty-nine days are —— weeks.
3. Fifty-four spoons are —— sets.
4. Fifty-six days are —— weeks.

5. 7 pecks are —— quarts. 6 pecks =
6. 8 weeks are —— days. 7 weeks =

7. Fifty inches are —— feet and —— inches.
8. Fifty days are —— weeks and —— day.
9. Fifty quarts are —— pecks and —— quarts.

10. Seven weeks and 3 days are —— days.
11. Four feet and 5 inches are —— inches.
12. Twelve bushels and 3 pecks are —— pecks.

13. $2\frac{3}{7}$ are —— sevenths. $3\frac{4}{7}$ are —— sevenths.
14. $4\frac{1}{7}$ are —— sevenths. $5\frac{2}{7}$ are —— sevenths.

Read first by column, then by line.

6 2's are ——. 6 5's are ——. 6 8's are ——.
6 3's are ——. 6 6's are ——. 6 9's are ——.
6 4's are ——. 6 7's are ——. 6 10's are ——.

Copy and add:

$33\frac{1}{2}$	526	628	731	83.6
25	234	204	229	21.4
$41\frac{2}{5}$	312	325	402	23.5

1. Add 5 gal. 2 qt. and 5 gal. 3 qt.

(a) Add 124 gal. 2 qt. and 31 gal. 3 qt.

2. From the sum of 9 and 5, subtract 10.

(b) From the sum of 236 and 72, subtract 104.

3. Multiply 6 by 3 and to the product add 6.

(c) Multiply 125 by 3 and to the product add 125.

4. Divide 12 by 2 and multiply the quotient by 3.

(d) Divide 256 by 2 and multiply the quotient by 3.

5. Two thirds of 18 inches are —— inches.

(e) Two thirds of 126 inches are —— inches.

6. Eighteen inches are $\frac{2}{3}$ of —— inches.

(f) One hundred and twenty-six inches are $\frac{2}{3}$ of —— inches.

7. A man paid 8 hundred dollars for a house; he repaired it at a cost of 4 hundred dollars, and sold it for 10 hundred dollars; he lost —— hundred dollars.

(g) A man paid 836 dollars for a house; he repaired it at a cost of 124 dollars and sold it for 925 dollars; he lost ————————.

Copy and subtract:

$67\frac{1}{2}$	408	509	706	80.4
$34\frac{2}{5}$	240	360	450	55

1. Observe the diagram given below. It is an oblong 2 inches by $3\frac{1}{2}$ inches. Think of it as made up of two rows of 1-inch squares with a piece of another square at one end of each row. The piece is —— —— of a square inch. In each row there are —— and —— —— square inches. $3\frac{1}{2}$ sq. in. $\times$ 2 = ——. The area of an oblong 2 inches by $3\frac{1}{2}$ inches is ————————.

½ in 1 in.	1 in.	1 in.	1 in.
1 in.			

2. Draw an oblong $4\frac{1}{2}$ inches by 2 inches. Divide it as far as possible into 1-inch squares. It contains two rows of figures. In each row there are —— and —— —— square inches. The area of an oblong $4\frac{1}{2}$ inches by 2 inches is ————.

Copy and multiply:

$31\frac{1}{2}$	$41\frac{1}{2}$	$51\frac{1}{2}$	$61\frac{1}{3}$	$71\frac{1}{4}$
4	4	4	4	4

1. February 1st, 1897, was Monday. February 1st, 1898, was ——. February 1st, 1899, was ——.

2. April 1st, 1897, was Thursday. April 1st, 1898, was ——. April 1st, 1899, was ——.

3. May 1st, 1897, was Saturday. June 1st, 1897, was ——.

4. Two thirds of 12 are one half of ——.

5. One half of 16 is two thirds of ——.

6. Two thirds of 15 are one half of ——.

7. One half of 20 is two thirds of ——.

8. Peter rode 56 miles in 7 hours; he rode at the rate of —— miles an hour.

9. Harris rode 57 miles in 7 hours; he rode at the rate of ———— miles an hour.

10. Adam rode 59 miles in 7 hours; he rode at the rate of ———— miles an hour.

11. 22 thirds are ——. 22 fourths are ——.

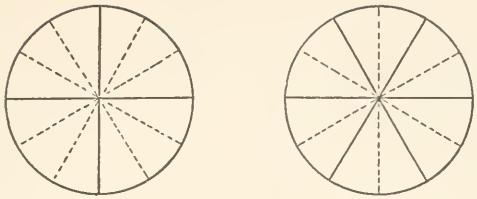
12. 22 fifths are ——. 22 sixths are ——.

13. 24 fifths are ——. 25 sixths are ——.

14. I am thinking of a triangle, each side of which is 9 inches. The perimeter of this triangle is —— inches.

Copy and divide:

$6)\underline{\$126}$ $6)\underline{\$186}$ $6)\underline{\$192}$ $6)\underline{\$204}$



1. One fourth is —— twelfths.
2. One sixth is —— twelfths.
3. Three fourths are —— twelfths.
4. Five sixths are —— twelfths.

5. Add 1 fourth and 1 sixth.

1 fourth is —— twelfths.
1 sixth is —— twelfths.
— twelfths and —— twelfths are —— twelfths.

6. Add 3 fourths and 1 sixth.

3 fourths are —— twelfths.
1 sixth is —— twelfths.
—— twelfths and —— twelfths are —— twelfths.

7. From 5 sixths subtract 1 fourth.

5 sixths are —— twelfths.
1 fourth is —— twelfths.
—— twelfths less —— twelfths are —— twelfths.

8. One sixth of a foot and 1 fourth of a foot are —— twelfths of a foot.

9. Three fourths of a foot less 1 sixth of a foot are —— twelfths of a foot.

Copy and divide:

6)$126 6)$186 6)$192 6)$204

1. $\frac{1}{4}$ of a foot + $\frac{1}{6}$ of a foot = $\frac{1}{4} + \frac{1}{6} =$
2. $\frac{1}{4}$ of a foot − $\frac{1}{6}$ of a foot = $\frac{1}{4} - \frac{1}{6} =$
3. $\frac{1}{6}$ of a foot × 3 = $\frac{1}{6} \times 3 =$
4. $\frac{1}{6}$ of a foot × $3\frac{1}{2}$ = $\frac{1}{6} \times 3\frac{1}{2} =$
5. 2 feet ÷ $\frac{1}{4}$ of a foot = $2 \div \frac{1}{4} =$
6. $\frac{1}{4}$ of a foot ÷ 3 = $\frac{1}{4} \div 3 =$

7. Draw a line $4\frac{1}{4}$ feet long; draw another $2\frac{1}{6}$ feet long; together the lines are —— and —— —— feet long. $4\frac{1}{4} + 2\frac{1}{6} =$ $4\frac{1}{4} - 2\frac{1}{6} =$

8. Draw a line $4\frac{3}{4}$ feet long; erase from it $2\frac{1}{6}$ feet; the line that is left is —— and —— —— feet long. $4\frac{3}{4} - 2\frac{1}{6} =$ $4\frac{3}{4} + 2\frac{1}{6} =$

9. The perimeter of a $1\frac{1}{2}$-foot square is —— feet. $1\frac{1}{2} + 1\frac{1}{2} + 1\frac{1}{2} + 1\frac{1}{2} =$ $1\frac{1}{2} \times 4 =$

10. Richard had a piece of silver wire $2\frac{1}{4}$ feet long; he wished to divide it into pieces $\frac{1}{6}$ of a foot long; he could make —— such pieces and have —— —— of a foot left.

11. Ned had a piece of rope $11\frac{1}{2}$ feet long; he divided it into 2 equal parts; each part was —— and —— —— feet long. $11\frac{1}{2} \div 2 =$ $\frac{1}{2}$ of $11\frac{1}{2} =$

12. 12 ft. ÷ 2 = 13 ft. ÷ 2 = $13\frac{1}{2}$ ft. ÷ 2 =
13. 14 ft. ÷ 2 = 15 ft. ÷ 2 = $15\frac{1}{2}$ ft. ÷ 2 =
14. 12 ft. ÷ 3 = 13 ft. ÷ 3 = $13\frac{1}{2}$ ft. ÷ 3 =

Copy and add:

$24\frac{3}{4}$	482	346	425	34.3
31	214	252	370	25.3
$22\frac{1}{2}$	224	172	125	12.4

REVIEW.

1.	$\frac{1}{2} + \frac{1}{4} =$	$\frac{1}{2} - \frac{1}{4} =$	$\frac{1}{2} \times 4 =$
2.	$\frac{1}{2} + \frac{1}{6} =$	$\frac{1}{2} - \frac{1}{6} =$	$\frac{1}{2} \times 5 =$
3.	$\frac{1}{2} + \frac{1}{8} =$	$\frac{1}{2} - \frac{1}{8} =$	$\frac{1}{2} \times 3 =$
4.	$\frac{1}{2} + \frac{1}{10} =$	$\frac{1}{2} - \frac{1}{10} =$	$\frac{1}{2} \times 6 =$
5.	$\frac{1}{2} + \frac{1}{12} =$	$\frac{1}{2} - \frac{1}{12} =$	$\frac{1}{2} \times 7 =$
6.	$\frac{1}{3} + \frac{1}{6} =$	$\frac{1}{3} - \frac{1}{6} =$	$\frac{1}{3} \times 6 =$
7.	$\frac{1}{3} + \frac{1}{9} =$	$\frac{1}{3} - \frac{1}{9} =$	$\frac{1}{3} \times 4 =$
8.	$\frac{1}{3} + \frac{1}{12} =$	$\frac{1}{3} - \frac{1}{12} =$	$\frac{1}{3} \times 5 =$
9.	$\frac{1}{4} + \frac{1}{8} =$	$\frac{1}{4} - \frac{1}{8} =$	$\frac{1}{4} \times 8 =$
10.	$\frac{1}{4} + \frac{1}{12} =$	$\frac{1}{4} - \frac{1}{12} =$	$\frac{1}{4} \times 5 =$
11.	$\frac{1}{5} + \frac{1}{10} =$	$\frac{1}{5} - \frac{1}{10} =$	$\frac{1}{5} \times 10 =$
12.	$\frac{1}{6} + \frac{1}{12} =$	$\frac{1}{6} - \frac{1}{12} =$	$\frac{1}{6} \times 18 =$

13. Can you read the first 12 lines on this page, completing each statement correctly, in 2 minutes? Try to do this.

14. I can change halves to 4ths, to ——, to ——, to ——, to ——.

15. One half is —— twentieths. $\frac{1}{2}$ is —— fortieths.

16. One half is —— fiftieths. $\frac{1}{2}$ is —— hundredths.

Copy and subtract:

37	518	416	617	71.8
$25\frac{1}{2}$	240	150	460	36.

1. $6 \div \frac{1}{2}$, means ——. $\frac{1}{2}$ is con ——.
   $\frac{1}{2} \div 6$, means ——. $\frac{1}{6}$ of ——.

2. $5 \div \frac{1}{2}$, means ——. $\frac{1}{2}$ is con ——.
   $\frac{1}{2} \div 5$, means ——. $\frac{1}{5}$ of ——.

3. $4 \div \frac{1}{2}$, means ——. ——.
   $\frac{1}{2} \div 4$, means ——. ——.

4. $4 \div \frac{1}{3}$, means ——. ——.
   $\frac{1}{3} \div 4$, means ——. ——.

5. $3 \div \frac{1}{3}$, means ——. ——.
   $\frac{1}{3} \div 3$, means ——. ——.

6. One half of $\frac{1}{10}$ is —— ——. $\frac{1}{2}$ of $\frac{1}{20}$ is ——.
7. One half of $\frac{1}{30}$ is —— ——. $\frac{1}{2}$ of $\frac{1}{50}$ is ——.

8. $\frac{1}{4}$ is contained in 2 —— times. $2 \div \frac{1}{4} =$
9. $\frac{1}{5}$ is contained in 2 —— times. $2 \div \frac{1}{5} =$
10. $\frac{1}{6}$ is contained in 2 —— times. $2 \div \frac{1}{6} =$
11. $\frac{1}{9}$ is contained in 2 —— times. $2 \div \frac{1}{9} =$
12. $\frac{1}{10}$ is contained in 3 —— times. $3 \div \frac{1}{10} =$

13. $2\frac{1}{3} \div \frac{1}{3} =$ $2\frac{2}{3} \div \frac{1}{3} =$ $3\frac{1}{3} \div \frac{1}{3} =$ $3\frac{2}{3} \div \frac{1}{3} =$
14. $2\frac{1}{4} \div \frac{1}{4} =$ $2\frac{3}{4} \div \frac{1}{4} =$ $3\frac{1}{4} \div \frac{1}{4} =$ $3\frac{3}{4} \div \frac{1}{4} =$
15. $2\frac{1}{5} \div \frac{1}{5} =$ $2\frac{3}{5} \div \frac{1}{5} =$ $3\frac{1}{5} \div \frac{1}{5} =$ $3\frac{3}{5} \div \frac{1}{5} =$
16. $2\frac{1}{6} \div \frac{1}{6} =$ $2\frac{5}{6} \div \frac{1}{6} =$ $3\frac{1}{6} \div \frac{1}{6} =$ $3\frac{5}{6} \div \frac{1}{6} =$

Copy and multiply:

$$\begin{array}{r} 32\frac{1}{2} \\ 5 \\ \hline \end{array} \qquad \begin{array}{r} 22\frac{1}{2} \\ 5 \\ \hline \end{array} \qquad \begin{array}{r} 42\frac{1}{2} \\ 5 \\ \hline \end{array} \qquad \begin{array}{r} 42\frac{1}{4} \\ 5 \\ \hline \end{array} \qquad \begin{array}{r} 42\frac{1}{5} \\ 5 \\ \hline \end{array}$$

REVIEW.

1.	$\frac{2}{3} + \frac{1}{6} =$	$\frac{2}{3} - \frac{1}{6} =$	$\frac{2}{3} \times 4 =$
2.	$\frac{2}{3} + \frac{1}{9} =$	$\frac{2}{3} - \frac{1}{9} =$	$\frac{2}{3} \times 5 =$
3.	$\frac{2}{3} + \frac{1}{12} =$	$\frac{2}{3} - \frac{1}{12} =$	$\frac{2}{3} \times 6 =$
4.	$\frac{3}{4} + \frac{1}{8} =$	$\frac{3}{4} - \frac{1}{8} =$	$\frac{3}{4} \times 2 =$
5.	$\frac{3}{4} + \frac{1}{12} =$	$\frac{3}{4} - \frac{1}{12} =$	$\frac{3}{4} \times 3 =$
6.	$\frac{2}{5} + \frac{1}{10} =$	$\frac{2}{5} - \frac{1}{10} =$	$\frac{2}{5} \times 4 =$
7.	$\frac{2}{5} + \frac{3}{10} =$	$\frac{2}{5} - \frac{3}{10} =$	$\frac{2}{5} \times 6 =$
8.	$\frac{1}{2} + \frac{1}{3} =$ (Change to 6ths.)		$\frac{1}{3} + \frac{1}{4} =$
9.	$\frac{1}{2} - \frac{1}{3} =$ (Change to ——.)		$\frac{1}{3} - \frac{1}{4} =$
10.	$\frac{2}{3} + \frac{1}{2} =$ (Change to ——.)		$\frac{3}{4} + \frac{1}{3} =$
11.	$\frac{2}{3} - \frac{1}{2} =$ (Change to ——.)		$\frac{3}{4} - \frac{1}{3} =$

TESTS.

If pupils have mastered the work up to this point, they will have no difficulty with the following. The real test is the pupil's power to do that which he has not done before.

(a) Can you add $\frac{1}{3}$ and $\frac{1}{5}$? (Change to ——.)
(b) Can you subtract $\frac{1}{5}$ from $\frac{1}{4}$? (Change to ——.)
(c) Can you add $\frac{2}{5}$ and $\frac{1}{4}$? (Change to ——.)
(d) Can you add $\frac{1}{2}$ and $\frac{1}{20}$? $\frac{1}{2}$ and $\frac{1}{40}$?
(e) Multiply $\frac{3}{5}$ by 7. $\frac{2}{3}$ by 12. $\frac{2}{3}$ by $6\frac{1}{2}$.
(f) Multiply $8\frac{2}{3}$ by 6. $\frac{3}{5}$ by 50. $\frac{4}{5}$ by $7\frac{1}{2}$.
(g) Multiply $6\frac{3}{4}$ by 8. $\frac{3}{5}$ by 20. $\frac{2}{5}$ by 40.

Copy and divide:

$3)$127 $3)$154 $3)$217 $3)$184

1. Divide 2 thirds by 1 fourth.

2 thirds are —— twelfths.

1 fourth is —— twelfths.

—— 12ths in —— 12ths —— and —— —— times.

2. Divide 3 fourths by 1 third.

3 fourths are —— 12ths.

1 third is —— twelfths.

—— 12ths in —— 12ths —— and —— —— times.

3. Divide 1 half by 1 fifth.

1 half is —— tenths.

1 fifth is —— tenths.

—— tenths in —— tenths —— and —— —— times.

4. Divide $\frac{1}{2}$ by $\frac{1}{3}$. (Change to sixths.)

5. Divide $\frac{3}{4}$ by $\frac{1}{8}$. (Change to eighths.)

6. Divide $\frac{2}{3}$ by $\frac{1}{9}$. (Change to ninths.)

7. Divide $\frac{4}{5}$ by $\frac{1}{10}$. (Change to tenths.)

8. $\frac{3}{5} \div \frac{1}{10} =$ —— $\frac{1}{10}$ of a dollar is contained in $\frac{3}{5}$ of a dollar —— times.

9. $\frac{2}{3} \div \frac{1}{12} =$ —— $\frac{1}{12}$ of a foot is contained in $\frac{2}{3}$ of a foot —— times.

10. $\frac{1}{2} \div \frac{1}{6} =$ —— $\frac{1}{6}$ of a pie is contained in $\frac{1}{2}$ of a pie —— times.

11. $\frac{3}{4} \div \frac{1}{6} =$ —— $\frac{2}{12}$ of a foot are contained in $\frac{9}{12}$ of a foot —— and —— —— times.

Copy and divide:

4)$129 4)$169 4)$209 4)$210

7 nines are 63	9 eights are 72
9 sevens are 63	8 nines are 72
8 eights are 64	9 nines are 81

1. Sixty-three days are —— weeks.
2. Sixty-four quarts are —— pecks.
3. Seventy-two pints are —— gallons.
4. Eighty-one ninths are —— wholes.

5. Ninety inches are —— feet and —— inches.
6. Ninety days are —— weeks and —— days.

7. Nine weeks and 2 days are —— days.
8. Seven feet and 5 inches are —— inches.

Read first by column, then by line.

7 2's are ——.	7 5's are ——.	7 8's are ——.
7 3's are ——.	7 6's are ——.	7 9's are ——.
7 4's are ——.	7 7's are ——.	7 10's are ——.
8 2's are ——.	8 5's are ——.	8 8's are ——.
8 3's are ——.	8 6's are ——.	8 9's are ——.
8 4's are ——.	8 7's are ——.	8 10's are ——.
9 2's are ——.	9 5's are ——.	9 8's are ——.
9 3's are ——.	9 6's are ——.	9 9's are ——.
9 4's are ——.	9 7's are ——.	9 10's are ——.

Copy and add:

$26\frac{5}{8}$	432	546	342	36.2
12	200	84	108	31.3
$20\frac{1}{2}$	148	225	705	32.6

TABLES.

2 times 2 are 4.	2 times 3 are 6.	2 times 4 are 8.
3 times 2 are 6.	3 times 3 are 9.	3 times 4 are 12.
4 times 2 are 8.	4 times 3 are 12.	4 times 4 are 16.
5 times 2 are 10.	5 times 3 are 15.	5 times 4 are 20.
6 times 2 are 12.	6 times 3 are 18.	6 times 4 are 24.
7 times 2 are 14.	7 times 3 are 21.	7 times 4 are 28.
8 times 2 are 16.	8 times 3 are 24.	8 times 4 are 32.
9 times 2 are 18.	9 times 3 are 27.	9 times 4 are 36.

2 times 5 are 10.	2 times 6 are 12.	2 times 7 are 14.
3 times 5 are 15.	3 times 6 are 18.	3 times 7 are 21.
4 times 5 are 20.	4 times 6 are 24.	4 times 7 are 28.
5 times 5 are 25.	5 times 6 are 30.	5 times 7 are 35.
6 times 5 are 30.	6 times 6 are 36.	6 times 7 are 42.
7 times 5 are 35.	7 times 6 are 42.	7 times 7 are 49.
8 times 5 are 40.	8 times 6 are 48.	8 times 7 are 56.
9 times 5 are 45.	9 times 6 are 54.	9 times 7 are 63.

2 times 8 are 16.	2 times 9 are 18.	9 and 4 are 13.
3 times 8 are 24.	3 times 9 are 27.	8 and 5 are 13.
4 times 8 are 32.	4 times 9 are 36.	7 and 6 are 13.
5 times 8 are 40.	5 times 9 are 45.	9 and 5 are 14.
6 times 8 are 48.	6 times 9 are 54.	9 and 6 are 15.
7 times 8 are 56.	7 times 9 are 63.	8 and 7 are 15.
8 times 8 are 64.	8 times 9 are 72.	9 and 7 are 16.
9 times 8 are 72.	9 times 9 are 81.	9 and 8 are 17.

PART III.

DECIMALS—TENTHS.

1. 6¢ and 2¢ are —— cents.
2. .6 and .2 are —— tenths.

3. 6¢ less 2¢ are —— cents.
4. .6 less .2 are —— tenths.

5. 4¢ × 2, means, *2 times 4¢;* 2 times 4¢ are ——.

6. .4 × 2, means, *2 times .4;* 2 times .4 are ——.

7. 6¢ ÷ 2¢, means, *find how many times 2¢ are contained in 6¢;* 2¢ are contained in 6¢ —— times.

8. .6 ÷ .2, means, *find how many times .2 are contained in .6;* .2 are contained in .6 —— times.

9. 6¢ ÷ 2, means, *find one half of 6¢;* one half of 6¢ is —— cents.

10. .6 ÷ 2, means, *find one half of .6;* one half of .6 is —— tenths.

Copy and multiply:

$24\frac{1}{3}$	23.6	24.8	34.9	231
4	2	2	2	6

DECIMALS—TENTHS.

1. One tenth of a dollar = —— dime. $.2 =
2. One tenth of a dollar = —— cents. $.3 =
3. Three tenths of a dollar = —— dimes. $.5 =
4. Four tenths of a dollar = —— cents. $.6 =
5. Fifty cents = —— dimes. Seventy cents =
6. Sixty cents = —— tenths of a dollar.
7. Eight dimes = —— tenths of a dollar.

8. $.8 = —— dimes. $.8 = —— cents.
9. $.9 = —— cents. $.9 = —— dimes.
10. $1.2 = —— dollar and —— dimes. $1.4 =
11. $1.2 = —— dimes. $1.4 = —— dimes.
12. $1.2 = —— dollar and —— cents. $1.5 =

13. Mary had $.4 in her pocket and $.3 in her bank; in both she had ————.
14. Jane had $.9; she spent $.3; she then had ——.
15. Sarah paid $.4 for each of three books; for all she paid ————.
16. Alice had $.8 with which to buy tea at $.4 a pound; she could buy —— pounds.
17. Maude paid $.6 for two pounds of coffee; one pound cost ————.

Copy and divide:

$.3)$24.6* $.4)$25.2 $.5)$27.5

—— times

*Observe that the pupil is required to find how many times 3 tenths are contained in 246 tenths—3 dimes in 246 dimes.

DECIMALS—TENTHS.

1. .5 + .3. (To be read, *5 tenths plus 3 tenths.*)

.5 + .3, means, .5 *and* .3. .5 and .3 are —— tenths. Arthur earned .5 of a dollar Monday and .3 of a dollar Tuesday; in both days he earned ————.

2. .9 − .4. (To be read, *9 tenths minus 4 tenths.*)

.9 − .4, means, .9 *less* .4. .9 less .4 are —— tenths. Harry had .9 of a dollar; he spent .4 of a dollar; he then had ————.

3. .4 × 3. (To be read, *4 tenths multiplied by 3.*)

.4 × 3, means, *3 times .4.* 3 times .4 are —— tenths. If one yard of ribbon is worth .4 of a dollar, 3 yards are worth —— tenths, or —— and —— tenths dollars.

4. 1.2 ÷ .4. (To be read, *12 tenths divided by 4 tenths.*)

1.2 ÷ .4, means, *find how many times .4 are contained in 1.2.* .4 are contained in 1.2 ————. James had 1.2 dollars with which to buy tea at .4 of a dollar a pound; he could buy —— pounds.

5. 1.2 ÷ 4. (To be read, *12 tenths divided by 4.*)

1.2 ÷ 4, means, *find one fourth of 1.2.* One fourth of 1.2 is —— tenths. William paid 1.2 dollars for 4 pounds of coffee; one pound cost —— tenths of a dollar.

Copy and divide:

3)$24.6 4)$25.2 5)$27.5

DECIMALS—TENTHS.

1. The sum of 5.2 and 4.3 is ——. $3.5 + 3.5 =$
2. The sum of 4.6 and 4.6 is ——. $5.6 + 5.6 =$
3. The sum of 3.6 and 4.6 is ——. $3.7 + 3.7 =$
4. The sum of 4.7 and 5.7 is ——. $4.8 + 5.8 =$

5. $10.2 + 10.2 =$ $10.8 + 10.8 =$
6. $10.2 + 12.2 =$ $20.3 + 20.3 =$
7. $20.9 + 20.9 =$ $20.6 + 20.7 =$
8. $23.4 + 20.4 =$ $23.5 + 22.4 =$
9. $23.6 + 22.6 =$ $23.7 + 32.7 =$

10. The sum of two and six tenths, and four and three tenths is ————.

11. The sum of eight and three tenths, and four and two tenths is ————.

12. Joseph paid \$6.5 for a suit of clothes and \$2.2 for a hat; for both he paid ————.

13. In the month of September the rainfall in Chicago was 3.4 inches; in October it was 2.6 inches; in both months it was ————.

(a) Find the sum of 25.3, 34, and 24.2.
(b) Find the sum of 31.3, 25, and 32.2.
(c) Find the sum of 26.4, 35, and 12.6.
(d) Find the sum of 25.5, 37, and 23.4.
(e) Find the sum of 31.2, 44, and 20.5.
(f) Find the sum of 42.5, 36, and 22.2.
(g) Find the sum of 35.3, 28, and 32.4.
(h) Find the sum of 34.2, 34, and 34.3.

DECIMALS—TENTHS.

1. The difference of 8.6 and 4.3 is ——.
2. The difference of 8.2 and .6 is ——.
3. The difference of 8 and 4.2 is ——.
4. The difference of 8.5 and 1.6 is ——.

5. $20.6 - 10.2 =$	$20.6 + 10.2 =$
6. $15.5 - 10.3 =$	$15.5 + 10.3 =$
7. $20.2 - 10.6 =$	$20.2 + 10.6 =$
8. $23.8 - 10.5 =$	$23.8 + 10.5 =$

9. Cyrus had \$4.6; he paid \$2.5 for a book; he then had ——————.

\$4.6 = —— dollars and —— cents.
\$2.5 = —— dollars and —— cents.
\$2.1 = —— dollars and —— cents.

10. A farmer received \$4.7 for a sheep and \$3.5 for a pig; for both he received —— and —— tenths dollars.

\$4.7 = —— dollars and —— cents.
\$3.5 = —— dollars and —— cents.
\$8.2 = —— dollars and —— cents.

(a) From forty-three and eight tenths dollars take one and four tenths dollars.

(b) From twenty-five and three tenths dollars take twelve and two tenths dollars.

(c) From 75.3 subtract 28.1.

(d) From 36.2 subtract 12.4.

(e) From 84.7 subtract 2.9.

DECIMALS—TENTHS.

1. The product of 8.3 and 2 is ——.
2. The product of 3.5 and 2 is ——.
3. The product of 2.4 and 3 is ——.
4. The product of 1.5 and 4 is ——.

5.	$3.2 \times 3 =$	$3.2 + 3 =$	$3.2 - 3 =$
6.	$2.1 \times 4 =$	$2.1 + .4 =$	$2.1 - .4 =$
7.	$2.3 \times 4 =$	$2.3 + 4 =$	$2.3 - .4 =$
8.	$2.5 \times 5 =$	$2.5 + .5 =$	$2.5 - .5 =$

9. At \$4.5 a cord, 3 cords of wood will cost ————. \$6.5 × 3 =

10. A man had \$5.3 in one pocket and \$3.9 in another; in both he had ————.

11. Chester had \$6.3; Elmer had \$5.1; Chester had ———— dollars more than Elmer.

12. 15 tenth-dollars = —— and —— tenths dollars.

13. 2 and 5 tenths dollars = —— tenth-dollars.

14. 35 tenth-dollars = —— and —— tenths dollars.

15. 1 and 8 tenths dollars = —— tenth-dollars.

(a) Multiply twenty-four and 5 tenths dollars by 5.

(b) Multiply thirty-six and 4 tenths dollars by 3.

(c) Multiply forty-two and 3 tenths dollars by 4.

(d) Find the product of 37.4 and 2.

(e) Find the product of 25.3 and 3.

DECIMALS—TENTHS.

1. The quotient of \$4.5 divided by \$.5 is ——.
2. The quotient of \$4.5 divided by 5 is ——.

3. The quotient of \$3.2 divided by \$.8 is ——.
4. The quotient of \$3.2 divided by 8 is ——.

5. The quotient of \$4.8 divided by \$.6 is ——.
6. The quotient of \$4.8 divided by 6 is ——.

7. The quotient of \$3.0 divided by \$.5 is ——.
8. The quotient of \$3.0 divided by 5 is ——.

9. The sum of two numbers is 15; one of the numbers is 10; the other number is ——.
10. The sum of two numbers is 7.5; one of the numbers is 3.2; the other number is ——.

11. The difference of two numbers is 4; the greater number is 12; the less number is ——.
12. The difference of two numbers is 3.4; the greater number is 12.8; the less number is ——.

13. The difference of two numbers is 5; the less number is 8; the greater number is ——.
14. The difference of two numbers is 5.3; the less number is 8.3; the greater number is ——.

(a) Divide sixty-four and two tenths by two tenths.
(b) Divide 48 and three tenths by three tenths.
(c) Divide 36 and eight tenths by four tenths.
(d) Divide 73 and five tenths by five tenths.

DECIMALS—TENTHS.

Read the first ten lines twice; the first time read 1.2, *twelve tenths;* the second time read it, *one and two tenths,* etc.

1. One half of 1.2 is ——. $1.2 = \frac{1}{2}$ of ——.
2. One third of 1.2 is ——. $1.2 = \frac{1}{3}$ of ——.
3. Two thirds of 1.2 are ——. $1.2 = \frac{2}{3}$ of ——.
4. One fourth of 1.2 is ——. $1.2 = \frac{1}{4}$ of ——.
5. Three fourths of 1.2 are ——. $1.2 = \frac{3}{4}$ of ——.

6. .8 is what part of 1.2? .4 of 1.2?
7. .9 is what part of 1.2? .6 of 1.2?
8. .3 is what part of 1.2? 1.2 of 2.4?
9. 1.2 is what part of 1.6? 1.2 of 1.8?
10. 1.2 is what part of 3.6? 1.2 of 4.8?

11. One fourth of 2 (2.0) is —— tenths.
12. Three fourths of 2 are —— and —— tenths.
13. One fifth of 2 (2.0) is —— tenths.
14. Three fifths of 2 are —— and —— tenths.
15. .4 is —— —— of 2. .5 is —— —— of 2.
16. .8 is —— —— of 2. 1.5 is —— —— of 2.

(a) Divide forty-six and four tenths by 2.
(b) Divide fifty-two and six tenths by 2.
(c) Divide forty-five and four tenths by 2.
(d) Divide sixty-three and nine tenths by 3.
(e) Divide seventy-two and six tenths by 3.
(f) Divide eighty-four and four tenths by 4.
(g) Divide ninety-six and five tenths by 5.

DECIMALS—TENTHS.

1. One tenth of 20 is ——. .2 of 20 =
2. One tenth of 30 is ——. .2 of 30 =
3. One tenth of 40 is ——. .2 of 40 =
4. One tenth of 50 is —— .2 of 50 =

5. Three tenths of 20 are ——. .4 of 20 =
6. Three tenths of 30 are ——. .4 of 30 =
7. Three tenths of 40 are ——. .4 of 40 =
8. Seven tenths of 20 are ——. .6 of 20 =

9. .1 of 24 is —— and —— tenths. .2 of 24 =
10. .1 of 32 is —— and —— tenths. .2 of 32 =
11. .1 of 43 is —— and —— tenths. .2 of 43 =

12. .1 of 23 = .2 of 23 = .3 of 23 =
13. .1 of 12 = .2 of 12 = .3 of 12 =
14. .1 of 33 = .2 of 33 = .3 of 33 =
15. .1 of 42 = .2 of 42 = .3 of 42 =

16. 1 tenth of 240 = (a) Find .2 of 240.
17. 1 tenth of 250 = (b) Find .2 of 250.
18. 1 tenth of 225 = (c) Find .2 of 225.
19. 1 tenth of 235 = (d) Find .2 of 235.

(e) Add $324.2, $123.1, and $231.3.
(f) Add $140.4, $203.2, and $132.2.
(g) Add $222.2, $101.1, and $303.3.
(h) Add $158.2, $300.2, and $121.3.
(i) Add $325.8, $234.3, and $286.6.
(j) Add $165.5, $248.4, and $244.4.

DECIMALS—TENTHS.

1. One tenth of 4 is —— tenths.*	.1 of 4 =	
2. One tenth of 3 is —— tenths.	.1 of 3 =	
3. One tenth of 6 is —— tenths.	.1 of 6 =	
4. One tenth of 5 is —— tenths.	.1 of 5 =	
5. One tenth of $2 is ———	.1 of $2 =	
6. One tenth of $8 is ———	.1 of $8 =	
7. One tenth of $7 is ———	.1 of $7 =	
8. One tenth of $3 is ———	.1 of $3 =	
9. Three tenths of $2 =	.3 of $2 =	
10. Three tenths of 2 inches =	.3 of 2 in. =	
11. Four tenths of $2 =	.4 of $2 =	
12. Four tenths of 2 inches =	.4 of 2 in. =	
13. Six tenths of $2 =	.6 of $2 =	
14. Six tenths of 2 inches =	.6 of 2 in. =	
15. 1 tenth of 75 =	(a) Find .2 of 75.	
16. 1 tenth of 46 =	(b) Find .3 of 46.	
17. 1 tenth of 32 =	(c) Find .5 of 32.	
18. 1 tenth of 35 =	(d) Find .4 of 35.	
19. 1 tenth of 45 =	(e) Find .6 of 45.	
20. 1 tenth of 25 =	(f) Find .8 of 25.	

Find the difference:

(g) 25½ and 11½.	(h) 44.2 and 21.5.
(i) 31½ and 22½.	(j) 39.3 and 16.1.
(k) 26½ and 23 1/16.	(l) 18.4 and 24.8.
(m) 34½ and 23 1/16.	(n) 24.5 and 18.2.

*Lead the pupil to perceive that 1 − 10 = 1; that 2 − 10 = 2, etc.

DECIMALS—TENTHS.

1. $30 × .2, means, find 2 of $30. .2 of $30 =
2. $40 × .2, means, find 2 of $40. .2 of $40 =
3. $20 × .3, means. ———— .3 of $20 =
4. $50 × .6, means. ———— .6 of $50 =

5. $25 × .1, means, find 1 of $25. .1 of $25 =
6. $25 × .2, means. ———— .2 of $25 =
7. $34 × .2, means. ———— .2 of $34 =
8. $22 × .4, means. ———— .4 of $22 =

9. $6 × .1, means, find 1 tenth of $6.
.1 of $6 =
10. $6 × .2, means. ———— .2 of $6 =
11. $4 × .3, means. ———— .3 of $4 =
12. $8 × .4, means. ———— .4 of $8 =

13. $50 × .3 = $30 × .4 = $40 × .5 =
14. $24 × .2 = $31 × .3 = $12 × .6 =
15. $8 × .2 = $7 × .5 = $14 × .8 =

16. $20 × 2.3, means, take 2 times $20 plus 3 tenths of $20. $20 × 2.3 = $20 × 2.4 =

17. $30 × 2.3, means, take 2 times $30 plus 3 tenths of $30. $30 × 2.3 =

18. $12 × 2.3, means. ———— $12 × 2.3 =
$12 × 2.4 =

(a) Multiply $240 by 3. (b) $240 × .3.
(c) Multiply $245 by 3. (d) $245 × .3.
(e) Multiply $324 by 4. (f) $324 × .4.

DECIMALS—TENTHS.

1. Multiply \$275 by 2.3. This means, *find two times \$275 plus three tenths of \$275.*

Operation No. 1.

\$275.	
2.3	
\$550.	(2 times \$275.)
\$82.5	(.3 of \$275.)
\$632.5	(2.3 times \$275.)

Explanation.
Two times \$275 are \$550.
One tenth of \$275 is \$27.5.
Three tenths of \$275 are \$82.5.
\$550 + \$82.5 = \$632.5.

Operation No. 2.

\$275.	
2.3	
\$82.5	(.3 of \$275.)
\$550.	(2 times \$275.)
\$632.5	(2.3 times \$275.)

Explanation.
One tenth of \$275 is \$27.5.
Three tenths of \$275 are \$82.5.
Two times \$275 are \$550.
\$550 + \$82.5 = \$632.5.

SUGGESTED NUMBER STORY.

If one acre of land is worth \$275,
1 tenth of an acre is worth ——.
3 tenths of an acre are worth ——.
2 acres are worth ——.
2.3 acres are worth ——.

(a) Multiply \$245 by 2.3. (b) \$146 × 2.3 =
(c) Multiply \$234 by 3.2. (d) \$156 × 3.2 =

(e) Divide 25.8 by .2. (f) Divide 37.6 by .2.
(g) Divide 36.5 by .5. (h) Divide 48.5 by .5.

DECIMALS—TENTHS.

1. Victor lives 3.4 miles north of the Court House; Harry lives 2.3 miles south of the Court House; from Victor's home to Harry's home it is —— miles.

(a) William lives 27.4 miles north of Waukegan; Henry lives 46.5 miles south of Waukegan. How far is it from William's home to Henry's home?

2. Mr. Dow lives 2.4 miles west of Chicago; Mr. Just lives 5.6 miles west of Chicago; from Mr. Dow's home to Mr. Just's home it is —— miles.

(b) Mr. Jones lives 24.3 miles west of Chicago; Mr. Adams lives 51.7 miles west of Chicago. How far is it from Mr. Jones's home to Mr. Adams's home?

3. Jane lives 2.4 miles south of the Chicago post-office; Helen lives 3.5 miles south of Jane's home; from the Chicago post-office to Helen's home it is —— miles.

(c) Mrs. Smith lives 17.3 miles south of the Chicago post-office; Mrs. Brown lives 24.5 miles south of Mrs. Smith's home. How far is it from the Chicago post-office to Mrs. Brown's home?

(d) Divide 75.8 by 2. (e) Divide 85.6 by 2.
(f) Divide 46.5 by 5. (g) Divide 94.5 by 5.
(h) Divide 61.5 by 5. (i) Divide 56.5 by 5.

DECIMALS—TENTHS.

1. Sarah paid \$1.2 for some books that cost \$.3 each; there were —— books. I found the number of books that Sarah bought by finding how many times \$.3 is contained in \$1.2. \$.3 is contained in \$1.2 —— times. Show upon the blackboard how this would appear as an example in division.

\$.4)\$1.6 \$.2)\$2.4 \$.2)\$4.6 \$.5)\$7.5

(a) Sarah's mother paid \$27.6 for some chickens that cost \$.3 each. How many chickens did she buy? I can find the number of chickens by finding how many times ————.

2. John paid \$1.2 for 3 second readers; each reader cost ————. I found the cost of 1 reader by finding $\frac{1}{3}$ of \$1.2. $\frac{1}{3}$ of \$1.2 is ————. Show upon the blackboard how this would appear as an example in division.

4)\$1.6 2)\$2.4 2)\$4.6 5)\$7.5

(b) John's father paid \$34.5 for 3 tons of hay. How much did one ton cost? I can find the cost of one ton by finding ————.

(c) Add 421.6, 135.3, and 264.5.
(d) Add 142.6, 25.4, and 391.5.
(e) Add 204.6, 48.3, and 162.7.

DECIMALS—TENTHS.

1. Henry paid \$4 for some young ducks at \$.2 each; there were —— ducks. I found the number of ducks that Henry bought by finding how many times ————. Show upon the blackboard how this would appear as an example in division.

\$.2)\$6.0 \$.4)\$8.0 \$.2)\$10. \$.5)\$10. \$.2)\$8.

(a) Henry's father paid \$48 for some fence posts that cost \$.2 each. How many posts?

2. Jane paid \$6 for 4 yards of velvet; each yard cost ————. I found the cost of one yard by finding $\frac{1}{4}$ of ————. Show upon the blackboard how this would appear as an example in division.

2)\$5.0 4)\$10.0 2)\$7. 2)\$9. 4)\$2.

(b) Jane's mother paid \$26 for 4 curtains. How much did one curtain cost?

(c) Mr. Curtis paid \$17 for 5 barrels of flour. How much did one barrel cost?

(d) If two acres of land are worth \$175, how much is one acre worth?

(e) From 124.2 subtract 18.5.

(f) From $135\frac{1}{5}$ subtract 112.1.

(g) From $164\frac{3}{5}$ subtract 122.4.

(h) From $298\frac{4}{5}$ subtract 175.7.

DECIMALS—TENTHS.

1. William paid \$2.3 for a pair of shoes; at the same rate 3 pairs of shoes would cost ————. I found the cost of 3 pairs by multiplying ———— ————. Show upon the blackboard how this would appear as an example in multiplication.

\$2.3	\$3.4	\$2.5	\$3.5	\$6.2
2	2	2	2	3

(a) William's father paid \$36.5 for a cow. At the same rate, how much would 3 cows cost?

2. Mary paid \$1.5 for 3 dozen oranges; one dozen oranges cost ————. I found the cost of one dozen by finding ————————. Show upon the blackboard how this would appear as an example in division.

5)\$2.5	4)\$1.6	3)\$1.8	2)\$6.4	2)\$5.4

(b) Mary's mother paid \$27.5 for 5 chairs. How much did one chair cost?

(c) Multiply \$325 by 2.2.
(d) Multiply \$124 by 1.3.
(e) Multiply \$426 by 3.4.
(f) Multiply \$321 by 3.4.
(g) Multiply \$347 by 4.3.
(h) Multiply \$252 by 4.3.
(i) Multiply \$212 by 1.5.
(j) Multiply \$140 by 2.1.

DECIMALS—TENTHS.

1. Alice paid \$2.5 for ribbon that cost \$.5 a yard; she bought —— yards. I found the number of yards by finding ————. Show upon the blackboard how this would appear as an example in division.

\$.5)\$2.5 \$.3)\$1.8 \$.2)\$3.6 \$.2)\$5.2 \$.2)\$4.6

(a) Alice's mother paid \$27.6 for a carpet that cost \$.6 a yard. How many yards did she buy?

2. Peter paid \$1.3 for a hat; at the same rate 3 hats would cost ————. I found the cost of of 3 hats by multiplying ————. I could find the cost of 4 hats by multiplying ——·——. Show upon the blackboard how these would appear as examples in multiplication.

\$2.4	\$2.5	\$2.6	\$2.7	\$2.8	\$2.9
2	2	2	2	2	2

(b) Peter's father paid \$74.6 for a horse; at the same rate how much would 4 horses cost?

(c) Divide 28.8 by .4. (d) Divide 29.6 by .4.
(e) Divide 37.5 by .5. (f) Divide 62.5 by .5.
(g) Divide 25.2 by .6. (h) Divide 26.4 by .6.

DECIMALS—TENTHS.

1. Mr. Brown had 1.8 acres of land which he divided into lots, each containing .3 of an acre; there were —— lots. I found the number of lots by finding ————. Show upon the blackboard how this would appear as an example in division.

.3 of an acre)1.5 acres 5 of an acre)3.5 acres

.4 of an acre)2.4 acres .6 of an acre)4.2 acres

(a) Mr. Lyon had 46.8 acres of land which he divided into lots, each containing .3 of an acre. How many lots?

2. Mr. Nichols had 1.8 acres of land which he divided into 3 equal parts; each lot contained ————. I found the amount of land in each lot by finding ————. Show upon the blackboard how this would appear as an example in division.

3)1.5 acres 5)3.5 acres 4)8.4 acres 3)6.6 acres

(b) Mr. Toll had 48.6 acres of land which he divided into three equal lots. How many acres in each lot?

(c) Divide 24.8 by 4. (d) Divide 25.2 by 4.
(e) Divide 36.5 by 5. (f) Divide 38.5 by 5.
(g) Divide 47.6 by 4. (h) Divide 51.2 by 4.
(i) Divide 39.5 by 5. (j) Divide 42.5 by 5.

DECIMALS—TENTHS.

1. Robert had \$1.2; Peter had $\frac{1}{3}$ as much; Peter had ————.

(a) Mr. Ford had \$64.2; Mr. Davis had $\frac{1}{3}$ as much. How much money did Mr. Davis have?

2. Mr. Frank's hat cost \$1.2; this was $\frac{1}{3}$ as much as his coat cost; his coat cost ——. They both cost ————.

(b) A harness cost \$24.5; this was $\frac{1}{3}$ as much as a horse cost. How much did the horse cost? How much did both together cost?

3. Alice's hat cost \$1.2; her gloves cost $\frac{2}{3}$ as much; her gloves cost ——; both together cost ————.

(c) Mr. Pratt's buggy cost \$136.5; his horse cost $\frac{2}{3}$ as much. How much did his horse cost? How much did both together cost?

4. Verne's gloves cost \$1.2; this was $\frac{2}{3}$ as much as her hat cost; her hat cost ——; both together cost ————.

Mrs. Hill's new curtains cost \$85.4; this was $\frac{2}{3}$ as much as her carpets cost.

(d) How much did the carpets cost?

(e) How much did both together cost?

(f) Add 27.4, 36.3, 25.7, and 13.2.

(g) Add 12.5, 14.2, 15.3, and 10.2.

(h) Add 22.2, 33.3, 44.4, and 55.5.

DECIMALS—TENTHS.

1. If 2 bushels of wheat are worth \$1.6, 3 bushels of wheat are worth ————————.

(a) If 2 tons of bran are worth \$28.8, how much are 3 tons of bran worth?

2. If 3 bushels of apples are worth \$1.8, 2 bushels of apples are worth ————————.

(b) If 3 tons of oil meal are worth \$73.5, how much are 2 tons of oil meal worth?

3. If 3 bushels of corn are worth \$1.2, 4 bushels of corn are worth ————————.

(c) If 3 tons of nails are worth \$106.5, how much are 4 tons of nails worth?

4. \$60 × .2 =	(d) \$740 × .2 =
5. \$63 × .2 =	(e) \$745 × .2 =
6. \$5.4 × 2 =	(f) \$83.6 × 2 =
7. \$50 × 2.2 =	(g) \$840 × 2.2 =
8. \$55 × 2.2 =	(h) \$635 × 4.2 =
9. \$2.7 ÷ \$.9 =	(i) \$65.2 × \$.4 =

10. If 4 lbs. of coffee are worth \$1.6, 5 lbs. of coffee are worth ————————.

(j) If 4 acres of land are worth \$97.2, how much are 7 acres worth?

(k) If 5 tons of hay are worth \$62.5, how much are $6\frac{1}{2}$ tons worth?

(l) From 641.3 subtract 238.1.

(m) From 524.7 subtract 161.4.

SIMPLE NUMBERS.

1. At $23 each, 2 cows cost —— dollars.
2. At $25 each, 10 cows cost —— dollars.
3. At $28 each, 10 cows cost —— dollars.
4. At $27 each, 10 cows cost —— dollars.
5. At $23 each, 20 cows cost —— dollars.
6. At $24 each, 20 cows cost —— dollars.
7. At $25 each, 20 cows cost —— dollars.
8. At $23 each, 22 cows cost —— dollars.
9. At $25 each, 23 cows cost —— dollars.
10. At $27 each, 21 cows cost —— dollars.
11. At $24 each, 24 cows cost —— dollars.

(a)

45
23

135 (3 times 45.)
90 (20 times 45.)

1035 (23 times 45.)

(b) Multiply 48 by 24.
(c) Multiply 37 by 46.
(d) Multiply 58 by 35.
(e) Multiply 72 by 21.
(f) Multiply 86 by 24.

(g)

$46\frac{1}{2}$
23

$11\frac{1}{2}$ (23 times $\frac{1}{2}$.)
138 (3 times 46.)
92 (20 times 46.)

$1069\frac{1}{2}$ (23 times $46\frac{1}{2}$.)

(h)

46.5
23

139.5 (3 times 46.5.)
930. (20 times 46.5.)

1069.5 (23 times 46.5.)

(i) Multiply $47\frac{1}{2}$ by 25.
(j) 47.5 by 25.
(k) Multiply $38\frac{1}{2}$ by 23.
(l) 38.5 by 23.

DENOMINATE NUMBERS.

1. I can reduce (change) 6 quarts 1 pint to pints. 6 qt. 1 pt. = —— pints.

(a) Reduce 36 qt. 1 pt. to pints.

2. I can reduce 3 gal. 2 qt. to quarts. 3 gal. 2 qt. = —— quarts.

(b) Reduce 36 gal. 2 qt. to quarts.

3. I can reduce 2 ft. 5 in. to inches. 2 ft. 5 in. = —— inches.

(c) Reduce 23 ft. 5 in. to inches.

4. I can reduce (change) 15 pints to quarts. 15 pints =

(d) Reduce 85 pints to quarts. 2)85

5. I can reduce 15 quarts to gallons. 15 qt. =

(e) Reduce 177 quarts to gallons. 4)177

6. I can reduce 21 pecks to bushels. 21 pk. =

(f) Reduce 230 pecks to bushels. 4)230

7. I can reduce 18 days to weeks. 18 days =

(g) Reduce 365 days to weeks.

8. I can reduce 2 hours 20 minutes to minutes. 2 hours 20 minutes = —— minutes.

(h) Reduce 7 hours 20 minutes to minutes.

(i) Divide \$326 by \$5. (j) Divide \$427 by \$5.

(k) Divide \$561 by \$5. (l) Divide \$472 by \$5.

(m) Divide \$358 by \$5. (n) Divide \$629 by \$5.

COMMON FRACTIONS.

1. One half is —— fourteenths.
2. One seventh is —— fourteenths.
3. Two sevenths are —— fourteenths.
4. Three sevenths are —— fourteenths.
5. One half and 1 fourteenth are ——.
6. One half less 2 fourteenths are ——.
7. Two sevenths and 1 fourteenth are ——.
8. Two sevenths less 1 fourteenth are ——.
9. Three sevenths and 1 fourteenth are ——.
10. Three sevenths less 1 fourteenth are ——.
11. $\frac{1}{2} + \frac{3}{14}$, means ——. $\frac{1}{2}$ and $\frac{3}{14}$ =
12. $\frac{1}{2} - \frac{3}{14}$, means ——. $\frac{1}{2}$ less $\frac{3}{14}$ =
13. $\frac{3}{7} \times 5$, means ——. 5 times $\frac{3}{7}$ =
14. $14 \times \frac{3}{7}$, means ——. $\frac{3}{7}$ of 14 =
15. $14 \times 2\frac{3}{7}$, means ——. $2\frac{3}{7}$ times 14 =
16. $\frac{3}{7} \div \frac{1}{14}$, means ——. $\frac{1}{14}$ is ——.
17. $2 \div \frac{1}{7}$, means ——. $\frac{1}{7}$ is ——.
18. $\frac{1}{7} \div 2$, means ——. $\frac{1}{2}$ of $\frac{1}{7}$ =

19. \$1.4 is $\frac{2}{3}$ of ——. $\frac{2}{3}$ of 1.5 =

(a) \$36.8 is $\frac{2}{3}$ of how many dollars?

(b) $\frac{2}{3}$ of 36.6 =

(c) \$54.2 is $\frac{2}{3}$ of how many dollars?

(d) $\frac{2}{3}$ of 55.2 =

(e) \$17.4 is $\frac{2}{3}$ of how many dollars?

(f) $\frac{2}{3}$ of 18.6 =

(g) Divide \$476 by 5. (h) Divide \$397 by 5.

(i) Divide \$623 by 5. (j) Divide 532 by 5.

COMMON FRACTIONS.

1. Add $\frac{5}{7}$ and $\frac{1}{2}$. ($\frac{5}{7} = \frac{\quad}{14}$. $\frac{1}{2} = \frac{\quad}{14}$.)
2. Add $\frac{7}{8}$ and $\frac{3}{4}$. (Change $\frac{3}{4}$ to $\frac{\quad}{8}$.)

3. From $\frac{4}{7}$ subtract $\frac{1}{2}$. ($\frac{4}{7} = \frac{\quad}{14}$. $\frac{1}{2} = \frac{\quad}{14}$.)
4. From $1\frac{1}{12}$ subtract $\frac{1}{3}$. (Change $\frac{1}{3}$ to $\frac{\quad}{12}$.)

5. Multiply 6 by $5\frac{2}{3}$. (5 times 6, plus $\frac{2}{3}$ of 6.)
6. Multiply $8\frac{1}{2}$ by 6. (6 times $\frac{1}{2}$, plus 6 times 8.)

7. Divide $\frac{1}{2}$ by 7. (Find $\frac{1}{7}$ of $\frac{1}{2}$.)
8. Divide 4 by $\frac{2}{7}$. (Find how many times, etc.)

9. Find the sum of 2.4 and $1\frac{1}{5}$. ($\frac{1}{5} = \frac{\quad}{10}$.)
10. Find the sum of $3\frac{1}{2}$ and $2\frac{3}{14}$. ($\frac{1}{2} = \frac{\quad}{14}$.)

11. Find the difference of $3\frac{4}{5}$ and 1.3. ($\frac{4}{5} = \frac{\quad}{10}$.)
12. Find the difference of $4\frac{1}{2}$ and $2\frac{1}{14}$. ($\frac{1}{2} = \frac{\quad}{14}$.)

13. Find the product of 8 multiplied by $4\frac{3}{4}$.
14. Find the product of $4\frac{3}{4}$ multiplied by 8.

15. Find the quotient of $\frac{3}{7}$ divided by 2.
16. Find the quotient of 2 divided by $\frac{3}{7}$.

17. $\frac{1}{2} + \frac{1}{3} + \frac{1}{6} = ?$ ($\frac{1}{2} = \frac{\quad}{6}$. $\frac{1}{3} = \frac{\quad}{6}$.)
18. $\frac{1}{3} + \frac{1}{4} + \frac{1}{12} = ?$ ($\frac{1}{3} = \frac{\quad}{12}$. $\frac{1}{4} = \frac{\quad}{12}$.)
19. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = ?$ ($\frac{1}{2} = \frac{\quad}{12}$, etc.)
20. $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} = ?$ ($\frac{1}{2} = \frac{\quad}{8}$, etc.)

(a) Add $146\frac{1}{2}$, $125\frac{1}{4}$, and $136\frac{3}{4}$.
(b) Add 224.5, $126\frac{1}{2}$, and 275.
(c) Add 375, 246, 233, and 145.

MISCELLANEOUS PROBLEMS IN FRACTIONS.

1. 3 inches are contained in 7 inches —— and —— —— times.

$6 \div 3 =$ $7 \div 3 =$ $8 \div 3 =$

2. 3 tenths are contained in 7 tenths ————.

$.6 \div .3 =$ $.7 \div .3 =$ $.8 \div .3 =$

3. 3 fourteenths are contained in 7 fourteenths ————.

$\frac{6}{14} \div \frac{3}{14} =$ $\frac{7}{14} \div \frac{3}{14} =$ $\frac{8}{14} \div \frac{3}{14} =$

4. 4 inches are contained in 9 inches —— and —— —— times.

$8 \div 4 =$ $9 \div 4 =$ $10 \div 4 =$ $11 \div 4 =$

5. 4 tenths are contained in 9 tenths ————.

$.8 \div .4 =$ $.9 \div .4 =$ $1.0 \div .4 =$ $1.1 \div .4 =$

6. 4 twelfths are contained in 9 twelfths ——.

$\frac{8}{12} \div \frac{4}{12} =$ $\frac{9}{12} \div \frac{4}{12} =$ $\frac{10}{12} \div \frac{4}{12} =$ $\frac{11}{12} \div \frac{4}{12} =$

7. One half of 6 is 1 third of ——.
8. One third of 6 is 1 half of ——.
9. One fourth of 8 is 1 half of ——.
10. One fourth of 8 is 1 third of ——.
11. One half of 8 is 1 third of ——.

(a) From 432 subtract $271\frac{1}{4}$.
(b) From 536 subtract 362.4.
(c) From 375 subtract $28\frac{1}{5}$.
(d) From 621 subtract 206.3.

MEASUREMENTS.

1. A rectangle 1 inch wide and 1 foot long contains —— square inches.

2. A rectangle 2 inches wide and 1 foot long contains —— square inches.

3. A rectangle 3 inches wide and 1 foot long contains —— square inches.

4. A rectangle 8 inches wide and 1 foot long contains —— square inches.

5. A 12-inch square contains —— square inches.

6. A 12-inch square is a *square foot.*

7. An oblong 2 feet by 3 feet contains ——.

8. An oblong 1 foot by 5 feet contains ——.

9. A square foot is what part of a 2-foot square?

10. 2 square feet are what part of a 2-foot square?

11. 3 square feet are what part of a 2-foot square?

12. 12 square inches are what part of a square foot?

13. 24 square inches are what part of a square foot?

14. An oblong 3 inches wide and 1 foot long is —— —— of a square foot.

15. An oblong 4 inches wide and 1 foot long is —— —— of a square foot.

16. An oblong 6 inches wide and 1 foot long is —— —— of a square foot.

(a) Multiply \$26 by 24.

(b) Multiply \$26 by $24\frac{1}{2}$.

(c) Multiply \$28 by $6\frac{1}{2}$.

(d) \$28 × 6.5.

(e) \$34 × 25.

(f) \$34 × 2.5.

MEASUREMENTS.

1. A rectangle 1 ft. wide and 1 yd. long contains —— square feet.

2. An oblong 2 ft. wide and 1 yard long contains —— square feet.

3. A 3-foot square contains —— square feet.

4. A 3-foot square is a *square yard.*

5. An oblong 1 yd. by 3 yd. contains ——.

6. An oblong 2 yd. by 3 yd. contains ——.

7. A square foot is —— —— of a sq. yd.

8. Two square feet are —— —— of a sq. yd.

9. Three square feet are —— —— of a sq. yd.

10. Six square feet are —— —— of a sq. yd.

11. A 2-foot square is —— —— of a sq. yd.

12. A 2-inch square is —— —— of a 3-inch square.

13. A 2-inch square is —— —— of a 4-inch square.

14. A 1-inch square is —— —— of a 2-inch square.

15. A 1-inch square is —— —— of a 3-inch square.

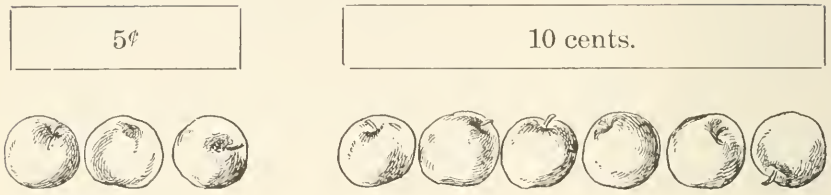
16. A 1-inch square is —— —— of a 4-inch square.

17. The area of an oblong 1 foot wide and 5 feet long is —— —— of a square yard.

(a) Divide $342 by $6. (b) Divide $343 by $6.

(c) Divide $276 by $6. (d) Divide $278 by $6.

RATIO AND PROPORTION.



1. If 3 apples are worth 5 cents, 6 apples are worth —— cents.

2. { 3 is —— —— of 6. 6 is —— times 3.
   { 5 is —— —— of 10. 10 is —— times 5.

3. { 4 is —— —— of 12. 12 is —— times 4.
   {20 is —— —— of 60. 60 is —— times 20.

4. { 5 is —— —— of 20. 20 is —— times 5.
   {12 is —— —— of 48. 48 is —— times 12.

5. If 25¢ pays for 7 lemons, 50¢ pays for ——.
6. If 10¢ pays for 3 oranges, 30¢ pays for ——.
7. If $20 pays for 3 tons, $80 pays for ——.
8. If 50¢ pays for 4 gallons, 25¢ pays for ——.
9. If 80¢ pays for 12 tickets, 20¢ pays for ——.
10. If 75¢ pays for 9 rides, 25¢ pays for ——.

11. Mary has 10¢; Jane has 20¢; if Mary can buy 3 pencils, Jane can buy —— pencils.

12. Harry has 50¢; Alice has 25¢; if Harry can buy 6 tablets, Alice can buy —— tablets.

(a) Divide $342 by 6. (b) Divide $344 by 6.
(c) Divide $277 by 6. (d) Divide $279 by 6.
(e) Divide $445 by 6. (f) Divide $447 by 6.

RATIO AND PROPORTION.

1. Twelve oranges are worth —— times as much as 6 oranges. If 6 oranges are worth 11¢, 12 oranges are worth —— cents.

2. Six Readers are worth —— times as much as 2 Readers. If 2 Readers are worth $1.20, 6 Readers are worth ————.

3. Five dozen eggs are worth —— —— as much as 10 dozen eggs. If 10 dozen are worth $2.20, 5 dozen are worth ————.

4. Five yards of velvet are worth —— —— as much as 15 yards of velvet. If 15 yards are worth $12, 5 yards are worth —— dollars.

5. If 6 oranges are worth 9¢, 2 oranges are worth —— cents.

6. If 3 tons of coal are worth $20, 6 tons are worth —— dollars.

7. John earns $7 in 2 weeks; in 6 weeks he earns —— dollars.

8. If 3 acres of land yield 5 tons of hay, at the same rate 9 acres will yield —— tons.

9. If 20 lbs. of salt cost 12¢, at the same rate 40 lbs. will cost —— cents.

10. If 5 yards of ribbon cost $\frac{1}{4}$ of a dollar, at the same rate 15 yards will cost ————.

(a) Add $274\frac{1}{3}$, 342, and $125\frac{1}{12}$.
(b) Add $145\frac{5}{12}$, 231, and $273\frac{1}{2}$.
(c) Add 224, 375, 432, and 227.

MISCELLANEOUS PROBLEMS.

1. In $1\frac{1}{2}$ hours there are —— minutes.

(a) How many minutes in $7\frac{1}{2}$ hours?

2. Henry earns $\$3\frac{1}{2}$ each week; in 6 weeks he earns —— dollars.

(b) How many dollars does Henry earn in 52 weeks?

3. James spent $\frac{1}{2}$ of the money his father gave him for a slate and $\frac{1}{4}$ of it for a book, and had 10¢ left. Before he spent any money he had —— cents.

(c) A man spent $\frac{1}{2}$ of his month's wages for fuel and $\frac{1}{4}$ of it for groceries and had $12.5 left. How much was his wages?

4. At $\frac{1}{5}$ of a dollar a yard, 10 yards of ribbon cost —— dollars.

(d) At $\frac{1}{5}$ of a dollar a yard, how much will 155 yards of ribbon cost?

5. Alice spent $\frac{4}{5}$ of her money and had 8¢ left; before spending any money she had —— cents; she spent —— cents.

(e) Alice's mother spent $\frac{4}{5}$ of her money and had $73 left. How much money had she before spending any? How much did she spend?

(f) From 1624 subtract $902\frac{1}{2}$.

(g) From 2436 subtract 814.3.

SIMPLE NUMBERS.

(a)	(b)	(c)	(d)
12 dollars	15 oranges	25¢	275
5 dollars	6 oranges	8¢	146
7 dollars	9 oranges	17¢	129

1. In problem (a) the minuend is ——; the subtrahend is ——; the difference is ——.

2. In problem (b) the subtrahend is ——; the minuend is ——; the difference is ——.

3. In problem (c) the difference is ——; the minuend is ——; the subtrahend is ——.

4. In problem (d) the minuend is ——; the difference is ——; the subtrahend is ——.

5. In a problem the minuend is 8 dollars; the subtrahend is 5 dollars ——; the difference is —— ——.

6. When the difference is 5 inches and the subtrahend is 4 inches, the minuend is —— ——.

7. When the difference is 11 feet and the minuend is 14 feet ——, the subtrahend is —— ——.

8. The sum of two numbers is 15; one of the numbers is 6; the other number is ——.

9. The difference of two numbers is 9; the larger number is 20; the smaller number is ——.

(e) Multiply \$542 by 3. (f) \$542 × .4.
(g) Multiply \$542 by 3.4. (h) \$542 × 3.5.
(i) Multiply \$542 by $3\frac{1}{2}$. (j) \$542 × $2\frac{1}{2}$.

DENOMINATE NUMBERS.

1. 2 gal. 1 qt. + 3 gal. 2 qt. are ————.
(a) Add 47 gal. 1 qt. and 35 gal. 2 qt.

2. 2 bu. 3 pk. + 3 bu. 3 pk. are ————.
(b) Add 54 bu. 3 pk. and 29 bu. 3 pk.

3. 6 gal. 3 qt. − 3 gal. 1 qt. are ————.
(c) From 45 gal. 3 qt. subtract 37 gal. 1 qt.

4. 4 gal. 1 qt. − 1 gal. 3 qt. are ————.
(d) From 57 gal. 1 qt. subtract 24 gal. 3 qt.

5. 3 bu. 2 pk. × 4 equals ————.
(e) Multiply 27 bu. 2 pk. by 6.

6. 3 bu. 2 pk. ÷ 2 pk. equals ————.
(f) Divide 12 bu. 2 pk. by 2 pk.

7. 4 bu. 2 pk. ÷ 2 equals ————.
(g) Divide 84 bu. 2 pk. by 2.

8. Six yards 2 feet equal —— feet.
(h) Reduce 45 yards 1 foot to feet.

9. Two pecks 3 quarts equal —— quarts.
(i) Reduce 23 pecks 3 quarts to quarts.

10. Twenty-seven feet equal —— yards.
(j) Reduce 56 feet to yards.

(k) Divide \$245 by \$7. (l) \$246 ÷ \$7 =
(m) Divide \$252 by \$7. (n) \$254 ÷ \$7 =
(o) Divide \$364 by \$7. (p) \$367 ÷ \$7 =

COMMON FRACTIONS.

1. One third is —— fifteenths.
2. One fifth is —— fifteenths.
3. Two fifths are —— fifteenths.
4. Three fifths are —— fifteenths.
5. One third and 1 fifteenth are ————.
6. One third less 1 fifteenth are ————.
7. Two fifths and 1 fifteenth are ————.
8. Two fifths less 1 fifteenth are ————.
9. Three fifths and 2 fifteenths are ————.
10. Three fifths less 2 fifteenths are ————.

11. $\frac{1}{3} + \frac{7}{15}$, means ————. $\frac{1}{3} + \frac{7}{15} =$
12. $\frac{2}{3} - \frac{7}{15}$, means ————. $\frac{2}{3} - \frac{7}{15} =$
13. $\frac{3}{5} \times 8$, means ————. 8 times $\frac{3}{5} =$
14. $10 \times \frac{3}{5}$, means ————. $\frac{3}{5}$ of 10 =
15. $10 \times 2\frac{3}{5}$, means ————. $2\frac{3}{5}$ times 10 =
16. $\frac{3}{5} \div \frac{1}{15}$, means ————. $\frac{1}{15}$ is ————.
17. $3 \div \frac{2}{5}$, means ————. $\frac{2}{5}$ are ————.
18. $\frac{2}{5} \div 3$, means ————. $\frac{1}{3}$ of $\frac{2}{5} =$

19. At \$10 an acre, $2\frac{1}{5}$ acres of land cost ——.
(a) At \$65 an acre, how much will $2\frac{1}{5}$ acres of land cost?

20. One half of the month of November plus one fifteenth of the month equals —— days.

(b) Divide \$364 by 7. (c) \$365 ÷ 7 =
(d) Divide \$161 by 7. (e) \$165 ÷ 7 =
(f) Divide \$455 by 7. (g) \$459 ÷ 7 =

COMMON FRACTIONS.

1. Add $\frac{3}{5}$ and $\frac{1}{3}$. ($\frac{3}{5} = \frac{\quad}{15}$. $\frac{1}{3} = \frac{\quad}{15}$.)
2. Add $\frac{5}{6}$ and $\frac{7}{12}$. (Change $\frac{5}{6}$ to $\frac{\quad}{12}$.)

3. From $\frac{4}{5}$ subtract $\frac{1}{3}$. ($\frac{4}{5} = \frac{\quad}{15}$. $\frac{1}{3} = \frac{\quad}{15}$.)
4. From $\frac{9}{14}$ subtract $\frac{1}{7}$. (Change $\frac{1}{7}$ to —.)

5. Multiply 8 by $3\frac{3}{4}$. (3 times 8, plus $\frac{3}{4}$ of 8.)
6. Multiply $5\frac{1}{3}$ by 6. (6 times $\frac{1}{3}$, plus 6 times 5.)

7. Divide $\frac{2}{3}$ by 5. (Find 1 fifth of $\frac{2}{3}$.)
8. Divide 5 by $\frac{2}{3}$. (Find how many times, etc.)

9. Find the sum of 3.2 and $1\frac{2}{5}$. ($\frac{2}{5} = \frac{\quad}{10}$.)
10. Find the sum of $2\frac{1}{3}$ and $2\frac{7}{15}$. ($\frac{1}{3} = \frac{\quad}{15}$.)

11. Find the difference of $5\frac{3}{5}$ and 1.2.
12. Find the difference of $4\frac{1}{5}$ and $2\frac{1}{15}$.

13. Find the product of 10 multiplied by $3\frac{2}{5}$.
14. Find the product of $3\frac{2}{5}$ multiplied by 10.

15. Find the quotient of $\frac{4}{5}$ divided by 3.
16. Find the quotient of 3 divided by $\frac{4}{5}$.

17. $\frac{1}{3} + \frac{1}{5} + \frac{1}{15} = ?$ ($\frac{1}{3} = \frac{\quad}{15}$. $\frac{1}{5} = \frac{\quad}{15}$.)
18. $\frac{1}{2} + \frac{1}{7} + \frac{1}{14} = ?$ ($\frac{1}{2} = \frac{\quad}{14}$. $\frac{1}{7} = \frac{\quad}{14}$.)
19. $\frac{1}{2} + \frac{1}{5} + \frac{1}{10} = ?$ ($\frac{1}{2} = \frac{\quad}{10}$. $\frac{1}{5} = \frac{\quad}{10}$.)
20. $\frac{2}{3} + \frac{2}{5} + \frac{1}{15} = ?$ ($\frac{2}{3} = \frac{\quad}{15}$. $\frac{2}{5} = \frac{\quad}{15}$.)

(a) Add $254\frac{1}{4}$, 325, and $243\frac{1}{3}$.
(b) Add $324\frac{3}{4}$, 271, and $442\frac{3}{4}$.
(c) Add 462, 575, 834, 926.
(d) Add 378, 246, 575, 242.

MISCELLANEOUS PROBLEMS IN FRACTIONS.

1. Add $\frac{2}{3}$, $\frac{1}{6}$, and $\frac{1}{12}$. (Change $\frac{2}{3}$ and $\frac{1}{6}$ to ——ths.)
2. Add $\frac{1}{2}$ and $\frac{5}{7}$. (Change $\frac{1}{2}$ and $\frac{5}{7}$ to ——ths.)

3. From $\frac{4}{5}$ subtract $\frac{1}{2}$. (Change $\frac{4}{5}$ and $\frac{1}{2}$ to ——ths.)
4. From $\frac{6}{7}$ subtract $\frac{1}{2}$. (Change $\frac{6}{7}$ and $\frac{1}{2}$ to ——ths.)

5. Multiply $\frac{4}{5}$ by 3. (Three times ————.)
6. Multiply $\frac{2}{3}$ by 5. (Five times ————.)
7. Multiply 12 by $\frac{2}{3}$. (Two thirds of ————.)
8. Multiply 15 by $\frac{2}{5}$. (Two fifths of ————.)
9. Multiply 6 by $2\frac{1}{2}$. (Two times 6, plus $\frac{1}{2}$ of 6.)
10. Multiply $4\frac{1}{2}$ by $2\frac{1}{2}$. (Two times $4\frac{1}{2}$, plus $\frac{1}{2}$ of $4\frac{1}{2}$.)

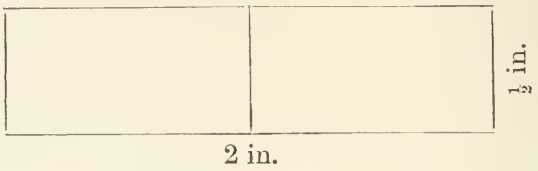
11. Divide 4 by $\frac{2}{3}$. (Change 4 to ——.)
12. Divide $5\frac{1}{5}$ by $\frac{2}{5}$. (Change $5\frac{1}{5}$ to ——.)
13. Divide $\frac{1}{2}$ by $\frac{1}{7}$. (Change $\frac{1}{2}$ and $\frac{1}{7}$ to ——.)
14. Divide $\frac{3}{7}$ by 2. (One half of ——.)
15. Divide $\frac{3}{4}$ by 3. (One third of ——.)

16. Find the sum of $\frac{1}{3}$ and $\frac{1}{4}$. $\frac{1}{4} + \frac{1}{2} + \frac{1}{3} =$
17. Find the difference of $\frac{2}{3}$ and $\frac{1}{4}$. $4\frac{2}{3} - 1\frac{1}{4} =$

18. Find the product of $\frac{2}{3}$ and 4. $\frac{2}{3} \times 6 =$
19. Find the product of 6 and $1\frac{1}{2}$. $8 \times 2\frac{1}{2} =$
20. Find the quotient of 5 divided by $\frac{1}{2}$.
$5 \div \frac{1}{3} =$
21. Find the quotient of $\frac{1}{2}$ divided by 5.

(a) From 2154 subtract $1072\frac{2}{5}$.
(b) From 3275 subtract $843\frac{2}{7}$.
(c) From 4526 subtract 1283.4.

MEASUREMENTS.*



1. The area of a rectangle 1 inch wide and 6 in. long is —— square inches. The area of a rectangle $\frac{1}{2}$ of an inch wide and 6 in. long is —— square inches.

2. The area of a rectangle 1 inch wide and 8 in. long is —— square inches. The area of a rectangle $\frac{1}{4}$ of an inch wide and 8 in. long is —— square inches.

3. The area of a rectangle 1 in. wide and 5 in. long is —— square inches. The area of a rectangle $\frac{1}{2}$ of an inch wide and 5 in. long is —— square inches.

4. The area of an oblong 4 inches wide and 6 in. long is —— square inches. The area of an oblong 4 inches wide and $6\frac{1}{2}$ in. long is —— square inches.

(a) Multiply 60 minutes by 24.

(b) Multiply 24 hours by 31.

(c) Multiply 144 square inches by 8.

*To the Teacher.—Be sure that the pupil understands that by the expression *square inch*, we mean the equivalent of a 1-inch square. Then by paper cutting lead him to discover that the area of a piece of paper $\frac{1}{2}$ in. by 2 in. is 1 square inch; that the area of a piece of paper $\frac{1}{4}$ in. by 4 in. is 1 square inch, etc. Remind the pupil that a rectangle may be either a square or an oblong.

MEASUREMENTS.

1. The area of an oblong 1 ft. wide and 6 ft. long is —— square feet. The area of an oblong $\frac{1}{2}$ of a foot wide and 6 ft. long is —— square feet.

2. The area of an oblong 1 ft. wide and 8 ft. long is —— square feet. The area of an oblong $\frac{1}{4}$ of a foot wide and 8 ft. long is —— square feet.

3. The area of an oblong 1 ft. wide and 5 feet long is —— square feet. The area of an oblong $\frac{1}{2}$ of a foot wide and 5 feet long is —— square feet.

4. The area of an oblong 4 feet wide and 8 feet long is —— square feet. The area of an oblong 4 ft. wide and $8\frac{1}{4}$ ft. long is —— square feet. The area of an oblong $4\frac{1}{4}$ ft. wide and 8 ft. long is —— square feet.

5. A $\frac{1}{2}$-foot square is —— —— of a square foot.

6. Draw upon the blackboard very carefully a $2\frac{1}{2}$-foot square. Try to divide it so that you can see how many square feet it contains.

7. Draw upon the blackboard very carefully a $1\frac{1}{2}$-foot square. Try to divide it so that you can see how many square feet it contains.

8. In a $3\frac{1}{2}$-foot square there are —— square feet.

(a) Divide \$176 by \$8. (b) \$177 ÷ \$8 =
(c) Divide \$264 by \$8. (d) \$267 ÷ \$8 =
(e) Divide \$336 by \$8. (f) \$341 ÷ \$8 =

RATIO AND PROPORTION.

10¢	15 cents.

1. If 4 lemons are worth 10¢, 6 lemons are worth —— cents.

2. { 4 is —— —— of 6. 6 is —— —— of 4.
   { 10 is —— —— of 15. 15 is —— —— of 10.

3. { 8 is —— —— of 12. 12 is —— —— of 8.
   { 12 is —— —— of 18. 18 is —— —— of 12.

4. 20¢ pays for 6 lemons; 30¢ pays for ——.
5. 10¢ pays for 4 oranges; 15¢ pays for ——.
6. $4 pays for 12 yards; $6 pays for ——.
7. 75¢ pays for 9 yards; 25¢ pays for ——.
8. 15¢ pays for 6 bananas; 10¢ pays for ——.
9. $40 pays for 12 tons; $10 pays for ——.
10. $30 pays for 9 tickets; $20 pays for ——.
11. Susan has 10¢; Jane has 15¢; if Susan can buy 4 pencils, Jane can buy —— pencils.
12. Henry has 20¢; William has 30¢; if Henry can buy 8 tablets, William can buy —— tablets.
13. If 4 horses consume 10 pecks of oats in a day, 6 horses will consume —— pecks.

(a) Divide $176 by 8. (b) $178 ÷ 8 =
(c) Divide $264 by 8. (d) $269 ÷ 8 =
(e) Divide $336 by 8. (f) $343 ÷ 8 =

1. Twelve oranges are worth —— times as much as 8 oranges. If 8 oranges are worth 14¢, 12 oranges are worth —— cents.

2. Fifteen dozen eggs are worth —— times as much as 10 dozen eggs. If 10 dozen eggs are worth $1.20, 15 dozen are worth ——.

3. Eight ponies consume —— —— as many oats in a day as 12 ponies. If 12 ponies consume 60 qt., 8 ponies consume —— quarts.

4. A man can earn —— times as much money in 6 days as he can earn in 2 days. If he earns $5 in 2 days, in 6 days he earns —— dollars.

5. If 10 lbs. of sugar are worth 40¢, 15 lbs. are worth —— cents.

6. If 4 acres of land yield 6 tons of hay, at the same rate 6 acres yield —— tons.

7. If 10 railroad tickets cost $4, at the same rate 15 tickets cost —— dollars.

8. If 4 bushels of beans are worth $7, 6 bushels are worth ——.

9. If 6 bags of corn are worth $5, 9 bags of corn are worth ——.

10. If 8 yards of velvet are worth $11, 12 yards are worth ——.

(a) Add $326\frac{1}{3}$, 243, and $155\frac{1}{5}$.
(b) Add 276.2, 144.3, and 354.6.
(c) Add 275, 436, 273, 244.

MISCELLANEOUS PROBLEMS.

(a) At $240 an acre, how much will 3.2 acres of land cost?

(b) Find the cost of 9 sheep at $3.45 a head.

(c) A lady paid $6.80 for a hat and $\frac{1}{2}$ as much for shoes. Find the cost of both.

(d) If 7 tons of coal cost $45.50, how much does one ton cost?

(e) A man bought two horses for $300; he sold one of them for $160, and the other for $180. How much did he gain?

(f) When cheese is worth $.08 a pound, how many pounds can be bought for $28.64.

(g) At $.05 a pound, how many pounds of sugar will cost $24.50?

(h) The lot upon which Mr. Smith's new house stands cost $1300; the house cost 6 times as much as the lot. Find the cost of both.

(i) Mr. Brown put into the bank on Monday, $24.30; on Tuesday, $11.50; on Wednesday, $13.45; on Thursday, $6.83; on Friday, $42; on Saturday, $13.75. How much in all?

(j) Mr. Jones had $75.40 in the bank; he put in $15.20 and soon after drew out $42.30. How much did he then have in the bank?

(a) From 3246 subtract 1518.

(b) From 4624 subtract $2481\frac{5}{8}$.

(c) From 2751 subtract 1480.4

PART IV.

DECIMALS—HUNDREDTHS.

1. 24¢ and 8¢ are —— cents.
2. .24 and .08 are —— hundredths.

3. 24¢ less 8¢ are —— cents.
4. .24 less .08 are —— hundredths.

5. 24¢ × 2, means, *2 times 24¢;* 2 times 24¢ =
6. .24 × 2, means, *2 times .24;* 2 times .24 =

7. 24¢ ÷ 4¢, means, *find how many times 4¢ are contained in 24¢;* 4¢ are contained in 24¢ —— times.

8. .24 ÷ .04, means, *find how many times .04 are contained in .24;* .04 are contained in .24 —— times.

9. 24¢ ÷ 4, means, *find one fourth of 24¢;* one fourth of 24¢ is —— cents.

10. .24 ÷ 4, means, *find one fourth of .24;* one fourth of .24 is —— hundredths.

(a) Multiply $224 by 2. (b) $2.24 × 2 =
(c) Multiply $235 by 2. (d) $2.35 × 2 =
(e) Multiply $346 by 2. (f) $3.46 × 2 =

DECIMALS—HUNDREDTHS.

1. One hundredth of a dollar is —— cent.
2. Six hundredths of a dollar = —— cents.
3. 53 hundredths of a dollar = —— cents.
4. 46 hundredths = —— tenths and ——.
5. 52 hundredths = —— tenths and ——.

6. $.45 = —— tenths and —— hundredths of a dollar.
7. $.36 = —— tenths and —— hundredths of a dollar.
8. One half-dollar = —— hundredths of a dollar.
9. One fourth-dollar = —— hundredths of a dollar.

10. Mary had $.08 in her pocket and $.52 in her bank; in both she had ——.
11. Jane had $.48; she spent $.11; she then had ——.
12. Sarah paid $.25 for each of 3 books; for all she paid ——.
13. Alice had $.50 with which to buy tea at $.25 a pound; she could by ——.
14. Maude paid $.80 for 4 pounds of coffee; one pound cost ——.

(a) Divide $198 by $9. (b) $199 ÷ $9 =
(c) Divide $297 by $9. (d) $299 ÷ $9 =
(e) Divide $306 by $9. (f) $309 ÷ $9 =

DECIMALS—HUNDREDTHS.

1. .28 + .06. (To be read, 28 hundredths plus 6 hundredths.)

.28 + .06, means, *.28 and .06;* .28 and .06 =

Arthur earned .28 of a dollar Monday and .06 of a dollar Tuesday; in both days he earned ——.

2. .32 − .06. (To be read, 32 hundredths minus 6 hundredths.)

.32 − .06, means, *.32 less .06;* .32 less .06 =

Harry had .32 of a dollar; he spent .06 of a dollar; he then had ——.

3. .06 × 4. (To be read, 6 hundredths multiplied by 4.)

.06 × 4, means, *4 times .06;* 4 times .06 are —— ——. If 1 yard of ribbon is worth .06 of a dollar, 4 yards are worth ————.

4. .48 ÷ .06. (To be read, 48 hundredths divided by 6 hundredths.)

.48 ÷ .06, means, *find how many times .06 are contained in .48;* .06 are contained in .48 ——.

James had .48 of a dollar with which to buy tablets at .06 of a dollar each; he could buy ——.

5. .48 ÷ 6. (To be read, 48 hundredths divided by 6.)

.48 ÷ 6, means, *find 1 sixth of .48;* 1 sixth of .48 is ————. William paid .48 of a dollar for 6 pounds of sugar; one pound cost ————.

(a) Divide $198 by 9. (b) $1.98 by 9 =

(c) Divide $297 by 9. (d) $2.97 by 9 =

DECIMALS—HUNDREDTHS.

1. The sum of \$.2 and \$.34 is ——.
2. The sum of \$.43 and \$.04 is ——.
3. The sum of \$.30 and \$.06 is ——.
4. The sum of \$.40 and \$.05 is ——.

5. The sum of \$.08 and \$.96 is ——.
6. The sum of \$.25 and \$.06 is ——.
7. The sum of \$.09 and \$.06 is ——.
8. The sum of \$.35 and \$.07 is ——.

9. The sum of \$1.25 and \$1.25 is ——.
10. The sum of \$1.35 and \$.08 is ——.
11. The sum of \$1.45 and \$.4 is ——.
12. The sum of \$1.55 and \$.6 is ——.

13. The sum of two tenths and twenty-four hundredths is —— hundredths.

(a) \$26.2 + \$84.24 =

14. The sum of eight tenths and six hundredths is —— hundredths. (b) \$47.8 + \$55.06 =

15. The sum of seven hundredths and five hundredths is —— hundredths.

(c) \$36.07 + \$45.05 =

16. The sum of fifty hundredths and fifty-five hundredths is —— hundredths.

(d) \$64.50 + \$73.55 =

(e) Add 26.24, 15.2, and 43.36.

(f) Add 35.2, 47.34, and 48.24.

(g) Add 84.25, 6.34, 2.58, and 31.21.

DECIMALS—HUNDREDTHS.

1. The difference of \$.45 and \$.25 is ——.
2. The difference of \$.6 and \$.15 is ——.
3. The difference of \$.40 and \$.05 is ——.
4. The difference of \$.45 and \$.2 is ——.

5. \$2.30 – \$1.25 =	2.30 – 1.28 =
6. \$3.45 – \$1.05 =	3.45 – 1.03 =
7. \$4.55 – \$2.2 =	4.55 – 2.3 =
8. \$5 – \$.25 =	5 – .75 =

(a) From 20 dollars and 45 cents subtract 14 dollars and 22 cents.

(b) From 26 and 45 hundredths subtract 14 and 24 hundredths.

(c) Add 35 dollars and 45 cents, and 27 dollars and 53 cents.

(d) Add 35 and 24 hundredths, and 27 and 42 hundredths.

(e) From 38 dollars and 52 cents subtract 21 dollars and 27 cents.

(f) From 38 and 52 hundredths subtract 21 and 24 hundredths.

(g) Add twenty-four dollars and forty-two cents and thirty-three dollars and twenty-seven cents.

(h) From 37.24 subtract 12.18

(i) From 86.37 subtract 28.3.

(j) From 97.8 subtract 34.25.

DECIMALS—HUNDREDTHS.

1. The product of \$.12 multiplied by 2 =
2. The product of \$1.04 multiplied by 5 =
3. The product of \$2.25 multiplied by 3 =
4. The product of \$1.50 multiplied by 2 =

5. \$2.25 × 2 =	1.25 × 3 =
6. \$2.12 × 3 =	2.12 × 4 =
7. \$3.04 × 4 =	3.04 × 5 =
8. \$4.25 × 4 =	4.25 × 5 =

(a) Multiply 15 dollars and 26 cents by 5.
(b) Multiply 15 and 27 hundredths by 5.

(c) Multiply 24 dollars and 35 cents by 6.
(d) Multiply 24 and 32 hundredths by 6.

(e) Multiply 34 dollars and 3 dimes by 4.
(f) Multiply 34 and 4 tenths by 4.

(g) Multiply twenty-eight dollars and sixteen cents by three.

(h) Multiply twenty-eight and sixteen hundredths by four.

(i) Multiply forty-three dollars and twenty-five cents by four.

(j) Multiply forty-three and twenty-five hundredths by three.

(k) Multiply forty-six and three tenths by seven.

(l) Multiply \$245 by 5.	(m) \$2.45 × 5 =
(n) Multiply \$375 by 5.	(o) \$3.75 × 5 =
(p) Multiply \$237 by 5.	(q) \$2.37 × 5 =

DECIMALS—HUNDREDTHS.

1. The quotient of \$.45 divided by \$.05 is ——.

2. The quotient of \$.45 divided by 5 is ——.

3. The quotient of .55 divided by .05 is ——.

4. The quotient of .55 divided by 5 is ——.

5.	\$.36 ÷ \$.09 =	.36 ÷ .04 =
6.	\$.36 ÷ 9 =	.36 ÷ 4 =
7.	\$.48 ÷ \$.06 =	.48 ÷ .04 =
8.	\$.48 ÷ 6 =	.48 ÷ 4 =
9.	\$.12 ÷ \$.02 =	.12 ÷ .03 =
10.	\$.12 ÷ 2 =	.12 ÷ 3 =
11.	\$1.20 ÷ \$.02 =	1.20 ÷ .03 =
12.	\$1.20 ÷ 2 =	1.20 ÷ 3 =

(a) Divide 24 dollars and 25 cents by 5¢.
(b) Divide 24 and 25 hundredths by .05.

(c) Divide 37 dollars and 5 cents by 5 cents.
(d) Divide 37 and 5 hundredths by 5 hundredths.

(e) Divide 37 dollars and 5 cents by 5.
(f) Divide 37 and 5 hundredths by 5.

(g) Divide \$2.25 by \$.05.

(h) \$6.75 ÷ \$.05 =

(i) Divide \$3.45 by \$.05.

(j) \$4.35 ÷ \$.05 =

(k) Divide \$7.15 by \$.05.

(l) \$8.55 ÷ \$.05 =

DECIMALS—HUNDREDTHS.

1. One half of .24 is ——. .24 is $\frac{1}{2}$ of ——.
2. One half of .16 is ——. .16 is $\frac{1}{2}$ of ——.
3. One third of .12 is ——. .12 is $\frac{1}{3}$ of ——.
4. Two thirds of .12 are ——.
   .12 is $\frac{2}{3}$ of ——
5. Three fourths of .12 are ——.
   .12 is $\frac{3}{4}$ of ——.
6. One half of 2.06 is ——.
   2.06 is $\frac{1}{2}$ of ——.

7. .08 is what part of .12? .04 of .12?
8. .09 is what part of .12? .06 of .12?
9. .12 is what part of .16? .12 of .18?
10. .12 is what part of .36? .12 of .48?
11. .25 is what part of 1? .75 of 1?

12. One fourth of .2 (.20) is —— hundredths.
13. Three fourths of .2 (.20) are —— hundredths.
14. One fifth of .2 (.20) is —— hundredths.
15. Three fifths of .2 (.20) are —— hundredths.

16. .04 is —— —— of .2. .05 is —— —— of .2.
17. .08 is —— —— of .2. .12 is —— —— of .2.
18. .15 is —— —— of .2. .16 is —— —— of .2.

(a) Divide \$24.48 by 6. (b) \$2449 ÷ 6 =
(c) Divide \$35.04 by 6. (d) \$3505 ÷ 6 =
(e) Divide \$29.47 by 7. (f) \$2949 ÷ 7 =
(g) Divide \$43.25 by 5. (h) \$4326 ÷ 5 =

DECIMALS—HUNDREDTHS.

1. One hundredth of 200 is ——.

.02 of 200 =

2. One hundredth of 300 is ——.

.02 of 300 =

3. One hundredth of 400 is ——.

.02 of 400 =

4. Three hundredths of 200 are ——.

.04 of 200 =

5. Three hundredths of 300 are ——.

.04 of 300 =

6. .01 of 202 = .02 of 202 = .03 of 202 =
7. .01 of 302 = .02 of 302 = .03 of 302 =
8. .01 of 108 = .02 of 108 = .03 of 108 =
9. .01 of 212 = .02 of 212 = .03 of 212 =
10. .01 of 240 = (a) Find .02 of 240.
11. .01 of 243 = (b) Find .02 of 243.
12. .01 of 320 = (c) Find .03 of 320.
13. .01 of 324 = (d) Find .03 of 324.
14. .01 of 230 = (e) Find .05 of 230.
15. .01 of 236 = (f) Find .07 of 236.
16. .01 of 26 = (g) Find .08 of 26.
17. .01 of 45 = (h) Find .05 of 45.
18. .01 of 535 = (i) Find .03 of 535.

(j) Add 3.05, 2.75, 25.3, and 346.
(k) Add 45.03, 6.4, 325.2, and 240.
(l) Add 6.21, 64.5, 146.2, and 150.

DECIMALS—HUNDREDTHS.

1. One hundredth of 6 is —— hundredths.
2. One hundredth of 3 is —— hundredths.
3. One hundredth of 5 is —— hundredths.

4. One hundredth of \$8 is ——. .04 of \$8 =
5. One hundredth of \$6 is ——. .07 of \$6 =
6. One hundredth of \$9 is ——. .06 of \$9 =

7. One hundredth of \$25 is ——.
.03 of \$25 =
8. One hundredth of \$32 is ——.
.02 of \$32 =
9. One hundredth of \$43 is ——.
.02 of \$43 =

10. One tenth of \$3 is ——. .2 of \$3 =
11. One hundredth of \$3 is ——.
.02 of \$3 =
12. One tenth of \$5 is ——. .3 of \$5 =
13. One hundredth of \$5 is ——.
.03 of \$5 =
14. One tenth of \$12 is ——. .02 of \$12 =
15. One hundredth of \$12 is ——.
.02 of \$12 =
16. One tenth of \$120 is ——. .2 of \$120 =
17. One hundredth of \$120 is ——.
02 of \$120 =

(a) From 24.4 subtract 12.27.
(b) From 325.2 subtract 43.35.
(c) From 146.25 subtract 84.82.

DECIMALS—HUNDREDTHS.

1. Harry paid $2 for 100 pencils; one pencil cost —— hundredths of a dollar.

2. Arthur paid $4 for 10 First Readers; one First Reader cost —— tenths of a dollar.

3. Mr. Jones paid $26 for 100 watermelons; one watermelon cost ————.

4. Mr. Rice paid $45 for 10 cords of wood; one cord of wood cost ————.

5. If one pound of sugar is worth $.04, 100 pounds of sugar are worth ————.

6. If one ton of coal is worth $6.50, 10 tons of coal are worth ————.

7. One bushel of wheat weighs 60 pounds; 10 bushels of wheat weigh ————.

8. One bushel of oats weighs 32 pounds; 100 bushels of oats weigh ————.

(a) Find 7 hundredths (.07) of 324.

Operation.	*Explanation.*
$3^{\vee}24$	.01 of 324 = 3.24
.07	.07 of 324 = 22.68
22.68	

(b) Find .06 of 437. (c) .5 of 437 =

(d) Find .04 of 356. (e) .4 of 248 =

(f) Multiply $342 by 5. (g) $3.42 × 5.

(h) Multidly $235 by 4. (i) $2.35 × 4.

(j) Multiply $148 by 6. (k) $1.48 × 6.

DECIMALS—HUNDREDTHS.

1.	$600 \times .03$, means ——.*	.03 of 600 =
2.	$400 \times .03$, means ——.	.03 of 400 =
3.	$200 \times .08$, means ——.	.08 of 200 =
4.	$500 \times .07$, means ——.	.07 of 500 =
5.	$123 \times .01$, means ——.	.01 of 123 =
6.	$123 \times .02$, means ——.	.02 of 123 =
7.	$241 \times .02$, means ——.	.02 of 241 =
8.	$222 \times .03$, means ——.	.03 of 222 =
9.	$\$24 \times .01$, means ——.	.01 of \$24 =
10.	$\$24 \times .02$, means ——.	.02 of \$24 =
11.	$\$32 \times .03$, means ——.	.03 of \$32 =
12.	$\$62 \times .03$, means ——.	.03 of \$62 =
13.	$\$6 \times .01$, means ——.	.01 of \$6 =
14.	$\$6 \times .02$, means ——.	.02 of \$6 =
15.	$\$8 \times .09$, means ——.	.09 of \$8 =
16.	$\$7 \times .05$, means ——.	.05 of \$7 =

17.	$\$2 \times 3 =$	$\$2 \times .3 =$	$\$2 \times .03 =$
18.	$\$23 \times 3 =$	$\$23 \times .3 =$	$\$23 \times .03 =$
19.	$\$62 \times 2 =$	$\$62 \times .2 =$	$\$62 \times .02 =$
20.	$\$26 \times 2 =$	$\$26 \times .2 =$	$\$26 \times .02 =$

(a) Divide \$4.36 by \$.04. (b) $5.24 \div .04 =$

(c) Divide \$6.24 by \$.04. (d) $7.24 \div .04 =$

(e) Divide \$5.44 by \$.04. (f) $5.68 \div .04 =$

*$600 \times .03$, means, *find .03 of 600.*

DECIMALS—HUNDREDTHS.

1. When coal costs $4 per ton,—

2 tons cost ——. 3 tons cost ——.
.1 of a ton costs ——. .2 of a ton cost ——.
.3 of a ton cost ——. 2.1 tons cost ——.
2.2 tons cost ——. 2.3 tons cost ——.

2. When land costs $300 per acre,—

2 acres cost ——. 3 acres cost ——.
.1 of an acre costs ——. .2 of an acre cost ——.
.3 of an acre cost ——. .4 of an acre cost ——.
.01 of an acre costs ——. .02 of an acre cost ——.
.03 of an acre cost ——. .04 of an acre cost ——.
2.1 acres cost ——. 2.2 acres cost ——.
2.01 acres cost ——. 2.02 acres cost ——.

3. When coal costs $6 per ton,—

2 tons cost ——. 3 tons cost ——.
.1 of a ton costs ——. .2 of a ton cost ——.
1.1 tons cost ——. 2.1 tons cost ——.

4. When corn meal costs $20 per ton,—

2 tons cost ——. 3 tons cost ——.
.1 of a ton costs ——. .2 of a ton cost ——
.01 of a ton costs ——. .02 of a ton cost ——.
.3 of a ton cost ——. .03 of a ton cost ——.
2.1 tons cost ——. 1.01 tons cost ——.

(a) Divide $4.36 by 4. (b) $5.25 \div 4 =$
(c) Divide $6.24 by 4. (d) $7.33 \div 4 =$

DECIMALS—HUNDREDTHS.

(a) Multiply \$234 by 3.25. This means, *find three times \$234 plus two tenths of \$234 plus five hundredths of \$234.*

Operation No. 1.

\$234.
3.25

\$702. (3 times \$234.)
\$46.8 (.2 of \$234.)
\$11.70 (.05 of \$234.)
\$760.50 (3.25 times \$234.)

Explanation.

Three times \$234 are \$702.
One tenth of \$234 is \$23.4.
Two tenths of \$234 are \$46.8.
One hundredth of \$234 is \$2.34.
Five hundredths of \$234 are \$11.70.
\$702+\$46.8+\$11.70=\$760.50

Operation No. 2.

\$234
3.25

\$11.70 (.05 of \$234.)
\$46.8 (.2 of \$234.)
\$702. (3 times \$234.)
\$760.50 (3.25 times \$234.)

Explanation.

One hundredth of \$234 is \$2.34.
Five hundredths of \$234 are \$11.70.
One tenth of \$234 is \$23.4.
Two tenths of \$234 are \$46.8.
Three times \$234 are \$702.
\$11.70+\$46.8+\$702=\$760.50

SUGGESTED NUMBER STORY.

If one acre of land is worth \$324,
1 hundredth of an acre is worth ——.
5 hundredths of an acre are worth ——.
1 tenth of an acre is worth ——.
2 tenths of an acre are worth ——.
3 acres are worth ——.
3.25 acres are worth ——.

(b) Add 3.25, 24.6, 48, 375, and 42.

DECIMALS—HUNDREDTHS.

1. A farmer paid \$4.2 for a sheep and \$2.25 for a lamb; for both he paid ——.

(a) A farmer paid \$125 for a horse, \$95 for a buggy, and \$24.50 for a harness. How much did he pay for all?

2. A boy paid \$4.65 for a coat and a pair of shoes; for the shoes he paid \$2.2; for the coat he paid ——.

(b) A man paid \$346.5 for wood and coal; for the wood he paid \$38.25. How much for the coal?

3. Harry had \$5; he spent \$2 for books and \$2.55 for clothing; he then had ——.

(c) Harry's father had \$645.75; he spent \$25.2 for groceries and \$34.75 for fuel. How much money had he left?

4. If one load of wood is worth \$4.25, two loads are worth ——.

(d) At \$275.25 an acre, how much are four acres of land worth?

5. William paid \$.4 for oranges at \$.05 each; he bought —— oranges.

(e) William's father paid \$19.6 for posts at \$.08 each. How many posts did he buy?

(f) From 375.25 subtract 148.17.

(g) From 464.2 subtract 238.46.

(h) From 645.34 subtract 582.8.

DECIMALS—HUNDREDTHS.

1. At \$300 a mile, how much will it cost to make 2.25 miles of road? 2 miles cost ——; 2 tenths of a mile cost ——; 5 hundredths of a mile cost ——; 2.25 miles cost ——.

(a) At \$345 a mile, how much will it cost to make 3.25 miles of road? \$345 × 3.25 = \$345 × $3\frac{1}{4}$ =

2. Alice paid \$1.26 for some tablets that cost \$.06 each; there were —— tablets.

\$.05)\$.60 \$.05)\$.65 \$.05)\$2 \$.05)\$2.25

(b) Mr. Dunn paid \$25.02 for paper that cost \$.06 a pound. How many pounds were there?

3. Sarah paid \$1.60 for 4 yards of ribbon; one yard cost ——.

4)\$1.20 4)\$1.4 8)\$1.6 8)\$1.2

(c) Mr. King paid \$52.60 for 4 tons of bran. How much did it cost per ton?

4. Charlie paid \$.12 for 3 pencils; at the same rate 7 pencils would cost ——.

(d) Mr. Johnson paid \$26.50 for 2 tons of hay. At the same rate how much would 7 tons cost?

(e) Multiply \$521 by 4.25. (f) \$346 × 2.25 =

(g) Multiply \$435 by 6.25. (h) \$164 × 5.25 =

DECIMALS—HUNDREDTHS.

1. Mr. Bliss had .72 of an acre of land which he divided into lots each containing .09 of an acre; there were —— lots.

.09 of an acre)1.80 acres. .09 of an acre)2.79 acres.

(a) Mr. Wheeler had 3.78 acres of land which he divided into lots each containing .09 of an acre. How many lots?

2. Dr. Harris had 6.36 acres of land; he divided it into 3 equal lots; each lot contained ————.

2)4.18 acres. 2)6.06 acres.

(b) Gen. Dow had 76.25 acres of land which he divided into 5 equal lots. How much in each lot?

3. Mr. Parker had 4 equal lots of land; each lot contained 1.05 acres; in all he had ————.

3.06 acres. × 4 2.08 acres. × 5 2.22 acres. × 3 7.33 acres. × 2

(c) Mr. Green had 4 equal lots of land; each lot contained 35.24 acres. How much land had he in all?

(d) Divide 2.48 by .04.
(e) 3.65 ÷ .05.
(f) Divide 6.72 by .06.
(g) 7.32 ÷ .06.
(h) Divide 8.54 by .07.
(i) 1.20 ÷ .08.

DECIMALS—HUNDREDTHS.

1. Robert had \$1.25; this is $\frac{1}{3}$ as much as Peter had; Peter had ————.

(a) Mr. Hill had \$24.45; this is $\frac{1}{3}$ as much as Mr. Ford had. How much money did Mr. Ford have?

2. Frank's book cost \$1.20; his slate cost $\frac{1}{3}$ as much; his slate cost ————.

(b) Mrs. Ford's carpet cost \$54.78; her curtains cost $\frac{1}{3}$ as much. How much did her curtains cost?

3. When apples are worth \$.40 a bushel, $\frac{1}{4}$ of a bushel is worth ————. $\frac{3}{4}$ of a bushel are worth ————.

(c) When meal is worth \$18 per ton, how much is $\frac{1}{4}$ of a ton worth? $\frac{3}{4}$ of a ton?

4. James paid \$.60 for $\frac{3}{4}$ of a bushel of peaches; at the same rate, a bushel would cost ————.

(d) Mr. Keen paid \$6.45 for $\frac{3}{4}$ of a ton of coal. At the same rate how much would $\frac{1}{4}$ of a ton cost? How much would 1 ton cost?

5. If 2 yards of muslin are worth \$.12, seven yards are worth ————.

(e) If two barrels of apples are worth \$6.50, how much are five barrels worth? Seven barrels?

(f) Divide 3.56 by 4. (g) $2.75 \div 5 =$

(h) Divide 6.42 by 6. (i) $7.44 \div 6 =$

(j) Divide 9.24 by 7. (k) $1.36 \div 8 =$

DECIMALS—HUNDREDTHS.

1. $\$300 \times .2 =$	(a) $\$370 \times .2 =$
2. $\$320 \times .2 =$	(b) $\$328 \times .2 =$
3. $\$300 \times .02 =$	(c) $\$345 \times .02 =$
4. $\$300 \times 2.2 =$	(d) $\$370 \times 2.2 =$
5. $\$300 \times 2.02 =$	(e) $\$345 \times 2.02 =$
6. $\$300 \times 2.22 =$	(f) $\$234 \times 2.22 =$
7. $\$4 \div \$.2 =$	(g) $\$24 \div \$.2 =$
8. $\$6 \div \$.02 =$	(h) $\$36 \div \$.02 =$
9. $\$3.4 \div \$.2 =$	(i) $\$43.4 \div \$.2 =$
10. $\$6.44 \div \$.02 =$	(j) $\$56.38 \div \$.02 =$
11. $\$2.4 \div \$.02 =$	(k) $\$34.4 \div \$.02 =$
12. $\$4.8 \div \$1.2 =$	(l) $\$52.8 \div \$1.2 =$
13. $\$2.50 \div \$1.25 =$	(m) $\$7.50 \div \$1.25 =$
14. $\$3 \div \$1.50 =$	(n) $\$27 \div \$1.50 =$
15. $\$4.4 \div 2 =$	(o) $\$46.8 \div 2 =$
16. $\$1.6 \div 2 =$	(p) $\$47.8 \div 2 =$
17. $\$4.04 \div 2 =$	(q) $\$74.04 \div 2 =$
18. $\$6.66 \div 2 =$	(r) $\$56.38 \div 2 =$
19. $\$4.5 \div 5 =$	(s) $\$37.5 \div 5 =$
20. $\$.35 \div 5 =$	(t) $\$6.35 \div 5 =$
21. $\$5.35 \div 5 =$	(u) $\$35.25 \div 5 =$
22. $\$8.88 \div 4 =$	(v) $\$73.28 \div 4 =$

(w) Add 374.2, 46, 4.5, and 243.25.
(x) Add $245\frac{1}{2}$, $174\frac{1}{5}$, and $328\frac{2}{5}$.
(y) Add $142\frac{1}{2}$, 234.3, and 156.2.

DECIMALS—HUNDREDTHS.

(a) Find the sum of \$46, \$275, and \$342.27.
(b) Find the difference of \$467.2 and \$275.38.

(c) Find the product of \$345.24 multiplied by 4.
(d) Find the product of \$2746 multiplied by .5.
(e) Find the product of \$35.62 multiplied by .05.
(f) Find the product of \$624 multiplied by 2.5.
(g) Find the product of \$734 multiplied by 3.05.
(h) Find the product of \$476 multiplied by 2.35.

(i) Find the quotient of 382.5 divided by .5.
(j) Find the quotient of 382.5 divided by 5.

(k) Find the quotient of \$28.50 divided by \$.05.
(l) Find the quotient of \$28.50 divided by 5.

(m) Find the quotient of 74.4 divided by .4.
(n) Find the quotient of 74.4 divided by 4.

(o) Find the quotient of 85.2 divided by .6.
(p) Find the quotient of 85.2 divided by 6.

1. Find $\frac{2}{3}$ of \$1.2. (q) Find $\frac{2}{3}$ of \$37.8.
2. \$1.2 is $\frac{2}{3}$ of what? (r) \$37.8 is $\frac{2}{3}$ of what?

3. Find $\frac{2}{3}$ of \$.18. (s) Find $\frac{2}{3}$ of \$4.74.
4. \$.18 is $\frac{2}{3}$ of what? (t) \$4.74 is $\frac{2}{3}$ of what?

(u) From 564.7 subtract $146\frac{1}{2}$.
(v) From 352.75 subtract $234\frac{1}{2}$.
(w) From 634.32 subtract 247.16.

SIMPLE NUMBERS.

(a)	(b)	(c)
12 dollars	15 oranges	25¢
3	5	3
36 dollars	75 oranges	75¢

1. In problem (a) the multiplicand is ——; the multiplier is ——; the product is ——.

2. In problem (b) the multiplier is ——; the product is ——; the multiplicand is ——.

3. In problem (c) the product is ——; the multiplier is ——; the multiplicand is ——.

4. In a problem the product is 36 dollars; the multiplier is 4; the multiplicand is ——.

5. The product of two numbers is 45; one of the numbers is 5; the other number is ——.

6. N. B.—The multiplier can never be a number of dollars or cents or oranges or books or feet or inches. It is always *simply a number* that tells how many times the multiplicand is to be taken.

7. *Two cents multiplied by two cents = nonsense.*

8. If the multiplicand is bushels, the product is ——; if the multiplicand is square inches, the product is square inches.

(d) Multiply 144 square inches by 9.
(e) Multiply 275 bushels by 23.
(f) Multiply 348 dollars by 2.3.

DENOMINATE NUMBERS.

16 ounces = 1 lb.

1. Two pounds are —— ounces.
2. Three pounds are —— ounces.
3. One half of a pound is —— ounces.
4. One fourth of a pound is —— ounces.
5. One eighth of a pound is —— ounces.
6. Three fourths of a pound are —— ounces.
7. Three eighths of a pound are —— ounces.
8. One and $\frac{1}{2}$ pounds are —— ounces.
9. When cheese costs 16¢ a pound, 1 ounce costs —— cent; $\frac{1}{2}$ lb. costs —— cents; 5 ounces cost —— cents.
10. Henry bought 1 lb. 7 oz. of cheese at 16¢ a pound; the cheese cost —— cents.
11. 2 lb. 8 oz. grapes at 10¢ a pound cost ————.
12. 1 lb. 4 oz. meat at 12¢ a pound cost ————.
13. 1 lb. 8 oz. meat at 12¢ a pound cost ————.
14. Mary gave a salesman 3 dimes in payment for 2 lb. 8 oz. maple sugar at 10¢ a pound; she should receive in change —— cents.
15. Arthur gave a salesman $\frac{1}{4}$ of a dollar in payment for 1 lb. 6 oz. cheese at 16¢ a pound; he should receive in change —— cents.

(a) Divide 34.5 by .3. (b) $34.6 \div .3 =$
(c) Divide 53.2 by .4. (d) $53.5 \div .4 =$
(e) Divide 62.5 by .5. (f) $62.6 \div .5 =$

COMMON FRACTIONS.

1. One half is —— sixteenths.
2. One fourth is —— sixteenths.
3. One eighth is —— sixteenths.
4. Three eighths are —— sixteenths.
5. One fourth and 1 sixteenth are ————.
6. One fourth less 1 sixteenth are ————.
7. Three eighths and 1 sixteenth are ————.
8. Three eighths less 1 sixteenth are ————.

9. $\frac{5}{8} + \frac{3}{16}$, means, ————. $\frac{5}{8} + \frac{3}{16} =$
10. $\frac{5}{8} - \frac{3}{16}$, means, ————. $\frac{5}{8} - \frac{3}{16} =$
11. $\frac{7}{16} \times 3$, means, ————. 3 times $\frac{7}{16} =$
12. $12 \times \frac{3}{4}$, means, ————. $\frac{3}{4}$ of 12 =
13. $12 \times 2\frac{3}{4}$, means, ————. $2\frac{3}{4}$ times 12 =
14. $\frac{3}{8} \div \frac{1}{16}$, means, ————. $\frac{1}{16}$ is ——.
15. $2 \div \frac{3}{8}$, means, ————. $\frac{3}{8}$ are ——.
16. $\frac{3}{8} \div 2$, means, ————. $\frac{1}{2}$ of ——.

17. A rectangle $1\frac{1}{2}$ inches wide and 10 inches long contains —— square inches.

(a) A piece of land is $1\frac{1}{2}$ feet wide and 246 feet long. How many square feet does it contain?

18. Two thirds of 27 are one half of ——.
19. Three fourths of 36 are one half of ——.

(b) Divide 34.8 by 3. (c) $34.5 \div 3 =$
(d) Divide 53.6 by 4. (e) $51.2 \div 4 =$
(f) Divide 61.5 by 5. (g) $63.5 \div 5 =$

COMMON FRACTIONS.

1. Add $\frac{5}{8}$ and $\frac{3}{16}$. (Change $\frac{5}{8}$ to $\frac{}{16}$.
2. Add $\frac{3}{4}$ and $\frac{1}{8}$. (Change $\frac{3}{4}$ to $\frac{}{8}$.

3. From $\frac{9}{16}$ subtract $\frac{3}{8}$. ($\frac{3}{8} = \frac{}{16}$.)
4. From $\frac{5}{8}$ subtract $\frac{1}{4}$. ($\frac{1}{4} = \frac{}{8}$.)

5. Multiply 10 by $2\frac{3}{5}$. (2 times 10, plus $\frac{3}{5}$ of 10.)
6. Multiply $6\frac{2}{3}$ by 4. (4 times $\frac{2}{3}$, plus 4 times 6.)

7. Divide $\frac{3}{8}$ by 2. (Find 1 half of $\frac{3}{8}$.)
8. Divide 2 by $\frac{3}{8}$. (Find how many times, etc.)

9. Find the sum of $5\frac{1}{8}$ and $5\frac{1}{16}$.
10. Find the sum of $3\frac{1}{4}$ and $3\frac{1}{16}$.

11. Find the difference of $8\frac{3}{8}$ and $4\frac{1}{16}$.
12. Find the difference of 6 and $2\frac{7}{16}$.

13. Find the product of 8 multiplied by $2\frac{3}{4}$.
14. Find the product of $2\frac{3}{4}$ multiplied by 8.

15. Find the quotient of $\frac{3}{4}$ divided by 4.
16. Find the quotient of 4 divided by $\frac{3}{4}$.

17. A surface is 8 inches long and $5\frac{1}{2}$ inches wide; it contains —— square inches.

(a) A surface is 46 feet long and $6\frac{1}{2}$ feet wide. How many square feet is it?

(b) Add 256.4, 25.34, 52, and 1.75.

(c) Add $624\frac{1}{8}$, 346, and $138\frac{5}{16}$.

(d) Add $150\frac{1}{4}$, 275, and 234.25.

MISCELLANEOUS PROBLEMS.

1. Thomas sells oranges for 20¢ a dozen; this is 6¢ a dozen more than he paid for them; he paid —— a dozen.

(a) A man sold a farm for $9675; this was $1465 more than he paid for it. How much did he pay for the farm?

2. Bertha sold a chicken and a duck; for the chicken she received 25¢; for the duck she received 10¢ more than she did for the chicken; for both she received ————.

(b) A man sold a cow and a horse; for the cow he received $37.50; for the horse he received $24.50 more than he received for the cow. How much did he receive for both?

3. Helen spent 8¢ for paper, 4¢ for a pencil, and had 13¢ remaining. Before she bought the paper and pencil she had ————.

(c) Mr. Lewis spent $124.50 for clothing, $275.40 for groceries, and had $134.10 remaining. How much had he before he purchased the clothing and groceries?

(d) At $2.75 a pair, how much will 9 pairs of shoes cost?

(e) From 379.4 subtract 143.25.

(f) From 536.74 subtract $272\frac{3}{4}$.

(g) From 472.37 subtract 148.19.

MEASUREMENTS.

1. A cube has —— square faces. The area of each face of a two-inch cube is —— square inches. The area of all the faces of a two-inch cube is —— square inches.

2. The area of each face of a three-inch cube is —— square inches. The area of all the faces of a three-inch cube is —— square inches.

3. Can you take your pencil and find the area of all the faces of a 4-inch cube? of a 5-inch cube? of a 6-inch cube?

4. Henry has a box that is 5 inches long, 3 inches wide, and 2 inches high.

(1) The area of the top of the box is —— square inches.

(2) The area of the bottom of the box is ——.

(3) The area of the top and bottom is ——.

(4) The area of one side of the box is ——.

(5) The area of both sides of the box is ——.

(6) The area of one end of the box is ——.

(7) The area of both ends of the box is ——.

(8) Can you tell without your pencil the area of the entire outside of the box?

(a) Multiply $246\frac{3}{20}$ by 7. (b) $436 \times 2\frac{1}{2} =$

(c) Multiply 243 by 32. (d) $243 \div 3.2 =$

(e) Multiply \$8.75 by 5. (f) $\$3.62 \div 7 =$

(g) Multiply 525 by 24. (h) $525 \times 2.4 =$

(i) Multiply 144 cubic inches by 5.

MEASUREMENTS.

1. Imagine a 1-foot cube. It has —— faces. Each face is a 1-foot ——. The area of the entire surface of the cube is —— square feet.

2. Imagine a 2-foot cube. It has —— faces. Each face is a —— square. The area of each face is —— square feet. The area of the entire surface of the cube is —— square feet.

3. The top of a desk is 3 feet wide and 4 feet long; its area is —— square feet.

4. A blackboard is 4 feet wide and 10 feet long; its area is —— square feet.

5. A rug is 6 feet wide and 8 feet long; its area is —— square feet.

(a)	(b)	(c)
553 times	1825 times	1544 times
$5)$2765	$.3)$547.5	$.04)$61.76
25	3	4
26	24	21
25	24	20
15	7	1.7
15	6	1.6
	1.5	.16
	1.5	.16

(d) Divide $4735 by $5.
(e) $346.5 ÷ $.5 =
(f) Divide $56.25 by $.05.
(g) $785 ÷ $.5 =
(h) Divide $86 by $.05.
(i) $57 ÷ $.5 =

RATIO AND PROPORTION.

9¢	12 cents.

1. If 6 pears are worth 9¢, 8 pears are worth —— cents.

2. { 9 is —— —— of 12. 12 is —— —— of 9.
   { 6 is —— —— of 8. 8 is —— —— of 6.

3. { 15 is —— —— of 20. 20 is —— —— of 15.
   { 18 is —— —— of 24. 24 is —— —— of 18.

4. 30¢ pays for 12 lemons; 40¢ pays for ——.

5. 15¢ pays for 6 oranges; 20¢ pays for ——.

(a)	(b)	(c)
$553	$182.5	$15.44
5)$2765	3)$547.5	4)$61.76
25	3	4
26	24	21
25	24	20
15	7	1.7
15	6	1.6
	1.5	.16
	1.5	.16

(d) Divide $3265 by 5. (f) $4722 ÷ 3 =

(e) Divide $184.8 by 4. (g) $573.2 ÷ 2 =

RATIO AND PROPORTION.

1. Helen has 75¢; Bertha has 50¢; if Helen can buy 12 yards of ribbon, Bertha can buy ——.

2. Roy has 15¢; David has 20¢; if Roy can buy 12 oranges, David can buy ————.

3. If 3 horses consume 60 ears of corn in a day, 4 horses will consume ————.

4. If Willie can earn 24 cents in 3 hours, in 4 hours he can earn ————.

5. If a man can earn $15 in 6 days, in 8 days he can earn ————.

6. If 12 lb. of nails cost 30¢, at the same rate 16 lb. will cost ———— cents.

7. If 20 eggs are worth 18¢, 30 eggs are worth —— cents.

8. Six ponies consume —— —— as many oats in a day as 8 ponies. If 8 ponies consume 20 quarts, 6 ponies consume —— quarts.

9. A man can earn —— times as much money in eight days as he can in 6 days. If he can earn $21 in 6 days, in 8 days he can earn ——.

10. If 15 lbs. of sugar are worth 60¢, 20 lbs. are worth —— cents.

ADDITION.

(a)	(b)	(c)	(d)
$346\frac{1}{3}$	$478\frac{1}{4}$	$351\frac{1}{7}$	$136\frac{2}{5}$
$175\frac{1}{5}$	243	246	241
242	$187\frac{7}{16}$	$184\frac{5}{14}$	$826\frac{11}{15}$

MISCELLANEOUS PROBLEMS.

1. A pencil cost 5¢; a book cost 6 times as much; both together cost ——.

(a) A harness cost $17.25; a carriage cost 5 times as much. Find the cost of both.

2. If 5 sheep cost $21, at the same rate 10 sheep will cost —— dollars.

(b) If 5 tons of bran cost $62.50, at the same rate how much will 10 tons cost?

3. If 5 bushels of apples cost $2.20, at the same rate 15 bushels will cost ——.

(c) If 5 tons of flour cost $140.25, how much will 15 tons cost at the same rate?

(d) Find the sum of six thousand two hundred forty-two, one thousand eighty four, and seven hundred ninety-four.

4. Arthur's book cost 25¢; his slate cost 10¢ less than his book cost; his slate and book together cost ——.

(e) A man paid $5650 for a house; for a piece of land he paid $1000 less than he paid for the house. How much did the land and house together cost?

SUBTRACTION.

(a)	(b)	(c)	(d)
4325	2371	4628	3626
1816	1528	2819	1819

SIMPLE NUMBERS.

(a)	(b)	(c)	(d)	(e)
$3)$36	3)$36	7¢)35¢	7)35¢	½)8
12 times	$12	5 times	5¢	16

1. In problem (a) the dividend is ——; the quotient is ——; the divisor is ——.

2. In problem (b) the quotient is ——; the dividend is ——; the divisor is ——.

3. In problem (c) the divisor is ——; the quotient is ——; the dividend is ——.

4. In problem (d) the —— and the —— are like numbers.

5. In problem (c) the —— and the —— are like numbers.

6. In a problem, the divisor is $3 and the quotient, 10; the dividend is ——.

7. In a problem, the dividend is $36 and the quotient, $9; the divisor is ——.

8. If the divisor is 1, the quotient number is the same as the dividend number. If the divisor is more than 1, the quotient number is —— than the dividend number. If the divisor is less than 1 the quotient number is —— than the dividend number.

MULTIPLICATION.

(f)	(g)	(h)	(i)
326	143	234	245
24	23	32	42

DENOMINATE NUMBERS.

1. From a can containing 15 qt. of milk, a dealer sold 5 qt. 1 pt.; there remained —— ——.

(a) From 425 qt., subtract 127 qt. 1 pt.

2. A milk dealer sold 2 qt. 1 pt. to his first customer, 3 qt. 1 pt. to his second customer, and 1 qt. 1 pt. to his third customer; to all he sold ——.

(b) Add 25 qt. 1 pt., 15 qt. 1 pt., and 22 qt. 1 pt.

3. From a string 5 yd. long, George cut off 2 yd. 2 ft.; there remained —— ——.

(c) From 345 yd., subtract 82 yd. and 2 ft.

4. From a piece of cheese weighing 6 lb. a grocer cut off 1 lb. 12 oz.; there remained ——.

(d) From 89 lbs. subtract 17 lbs. 5 oz.

(e)	(f)	(g)
258 times	215 times	317 t's.
$25)$6450	$2.5)$537.5	$.25)$79.25
50	50	75
145	37	4.2
125	25	2.5
200	12.5	1.75
200	12.5	1.75

(h) Divide $6125 by $25. (i) $2875÷$25 =

(j) Divide $337.5 by $2.5. (k) $712.5÷$2.5 =

(l) Divide $84.50 by $.25. (m) $55.50÷$.25 =

thirds sixths ninths eighteenths

1. One third is —— eighteenths.
2. One sixth is —— eighteenths.
3. One ninth is —— eighteenths.
4. Two ninths are —— eighteenths.
5. One sixth and 1 eighteenth are ————.
6. One sixth less 1 eighteenth are ————.
7. Five ninths and 1 eighteenth are ————.
8. Five ninths less 1 eighteenth are ————.

9. $\frac{5}{9} + \frac{3}{18} =$ $\frac{5}{9} - \frac{3}{18} =$
10. $\frac{11}{18} \times 2 =$ $12 \times \frac{5}{6} =$
11. $12 \times 2\frac{5}{6} =$ $\frac{5}{9} \div \frac{3}{18} =$
12. $2 \div \frac{5}{9} =$ $\frac{5}{9} \div 2 =$

(a)	(b)	(c)
\$258	\$21.5	\$3.17
25)\$6450	25)\$537.5	25)\$79.25
50	50	75
145	37	4.2
125	25	2.5
200	12.5	1.75
200	12.5	1.75

(d) Divide \$3250 by 25. (e) \$8125 ÷ 25 =
(f) Divide \$572.5 by 25. (g) \$547.5 ÷ 25 =
(h) Divide \$61.75 by 25. (i) \$83.50 ÷ 25 =

COMMON FRACTIONS.

1. Add $\frac{5}{9}$ and $\frac{7}{18}$. (Reduce ————.)
2. Add $\frac{1}{6}$ and $\frac{5}{9}$. (Reduce ————.)

3. From $\frac{5}{9}$ subtract $\frac{7}{18}$. (Reduce ————.)
4. From $\frac{5}{6}$ subtract $\frac{4}{9}$. (Reduce ————.)

5. Multiply 12 by $2\frac{5}{6}$. (2 times ————.)
6. Multiply $5\frac{3}{5}$ by 6. (6 times ————.)

7. Divide $8\frac{5}{9}$ by 2. ($\frac{1}{2}$ of ————.)
8. Divide $2\frac{1}{9}$ by $\frac{5}{9}$. (Find how many times, etc.)

9. Find the sum of $7\frac{1}{9}$ and $7\frac{1}{3}$.
10. Find the sum of $4\frac{7}{18}$ and $3\frac{2}{9}$.

11. Find the difference of 8 and $2\frac{5}{9}$.
12. Find the difference of $9\frac{1}{3}$ and $4\frac{5}{18}$.

13. Find the product of 9 multiplied by $2\frac{2}{3}$.
14. Find the product of $2\frac{2}{3}$ multiplied by 9.

15. Find the quotient of $\frac{2}{3}$ divided by 6.
16. Find the quotient of $6\frac{1}{3}$ divided by $\frac{2}{3}$.

ADDITION.

(a)	(b)	(c)	(d)	(e)
24	35	46	56	24
32	24	21	46	34
41	31	38	36	44
55	42	20	26	84
47	56	34	16	24
38	38	47	66	74

MISCELLANEOUS PROBLEMS.

1. A dealer sold 6 bushels of oats for $1.80; the price per bushel was ————.

(a) A farmer sold 25 bushels of wheat for $18.75. What was the price per bushel?

2. Eight bushels of beans are worth —— times as much as 6 bushels. If 6 bushels are worth $7, 8 bushels are worth —— dollars.

3. Eight bags of salt are worth —— times as much as 6 bags. If 6 bags are worth $5, 8 bags are worth —— dollars.

4. Twelve bushels of corn are worth —— times as much as 8 bushels. If 8 bushels are worth $3, 12 bushels are worth —— dollars.

5. Henry's father is 6 feet 1 inch in height; Henry is 4 feet 9 inches; Henry's father is —— —— taller than Henry.

(b) From 75 ft. 2 in. subtract 43 ft. 8 in.

6. Alice has a picture that is 1 ft. 6 in. wide and 2 ft. 4 in. long; its perimeter is —— ——.

(c) What is the perimeter of the floor of a room that is 14 ft. 6 in. wide and 16 ft. 8 in. long?

SUBTRACTION.

(d)	(e)	(f)	(g)	(h)
$828\frac{7}{8}$	954	425.2	48.75	38.1
$182\frac{5}{16}$	$182\frac{15}{16}$	131.8	29.08	19.6

MEASUREMENTS.

1. A rectangle $\frac{1}{2}$ of an inch wide and 10 inches long contains —— square inches.

(a) A rectangular piece of land is $\frac{1}{2}$ of a foot wide and 238 feet long. How many square feet does it contain?

2. A rectangle 2 feet wide and 2 yards long contains —— square feet.

(b) A rectangular piece of land 2 feet wide and 35 yards long contains how many square feet?

3. A rectangle contains 18 square inches; it is 6 inches long; it is —— inches wide.

(c) A rectangular piece of land contains 726 square feet; it is 6 feet wide. How long is it?

4. Think of a room that is 12 feet long, 10 ft. wide, and 8 feet high. Is it a large or a small room? Could your teacher standing on the floor of such a room, reach the ceiling?

(1) The area of the ceiling is —— square feet.

(2) The area of the floor is —— square feet.

(3) The area of one end wall is ————.

(4) The area of one side wall is ————.

MULTIPLICATION.

(d)	(e)	(f)	(g)	(h)
$372\frac{3}{16}$	575	326	47.05	26.2
6	$4\frac{1}{3}$	32	3	$7\frac{1}{2}$

MEASUREMENTS.

1. An oblong 1 inch wide and 12 inches long contains —— square inches. It is —— —— of a square foot.

2. An oblong 3 inches wide and 12 inches long contains —— square inches. It is —— —— of a square foot.

3. Twenty-four square inches are —— —— of a square foot.

4. Forty-eight square inches are —— —— of a square foot.

5. An oblong 6 inches wide and 12 inches long contains —— square inches. It is —— —— of a square foot.

6. A rectangle 6 in. by 6 in. contains —— sq. inches. It is —— —— of a sq. foot.

7. Sixty square inches are —— —— of a square foot.

8. Eighty-four square inches are —— —— of a sq. foot.

9. An oblong 3 inches wide and 4 inches long contains —— square inches. It is —— —— of a square foot.

DIVISION.

(a)	(b)	(c)	(d)
$3\frac{1}{2})168$*	$\$.06)\$8.34$	$6)\$8.34$	$\$0.4)\$11.$

(e) Divide seventy-five and forty-five hundredths by five hundredths.

*Change $3\frac{1}{2}$ and 168 to halves.

ADDITION.

(a)	(b)	(c)	(d)	(e)
$734\frac{2}{9}$	$574\frac{1}{2}$	74.3	24.35	65.2
48	132	156	6.07	74.8
$351\frac{1}{6}$	$356\frac{1}{3}$	17	21.4	53.5
123	47	842.5	8.25	87.6
$246\frac{5}{18}$	$187\frac{4}{9}$	7.2	36.36	95.3
75	84	155	5.5	42.7

(f) Add twenty-four and seven tenths, and eight and forty-three hundredths.

SUBTRACTION.

(g)	(h)	(i)	(j)	(k)
$643\frac{2}{3}$	954	725	34.76	89.1
$171\frac{1}{6}$	$328\frac{5}{9}$	186.2	18.29	42.8

(l) From twenty-five and eight tenths, take twelve and five hundredths.

MULTIPLICATION.

(m)	(n)	(o)	(p)	(q)
$324\frac{5}{18}$	482	534	6.25	2.75
6	$7\frac{1}{4}$	$23\frac{1}{4}$	5	8

(r) Multiply nine and four hundredths by six.

(s) Divide 246.25 by 25.
(t) Divide 14568 by 12.
(u) Divide 32750 by 25.

ADDITION.

(a)	(b)	(c)	(d)
$308\frac{1}{7}$	$506\frac{1}{2}$	75.4	25 bu. 2 pk.
$64\frac{1}{2}$	$87\frac{1}{5}$	31.8	34 bu. 2 pk.

SUBTRACTION.

(a)	(b)	(c)	(d)
$187\frac{1}{2}$	$274\frac{1}{2}$	35.6	54 bu.
$38\frac{1}{14}$	$146\frac{1}{7}$	20.8	31 bu. 3 pk.

MULTIPLICATION.

(a) Multiply 54 by 32.
(b) $54 \times 3.2 =$
(c) Multiply 53 by 35.
(d) $53.5 \times 35 =$
(e) Multiply $53\frac{1}{2}$ by 35.
(f) $54.3 \times 35 =$
(g) Multiply $45\frac{1}{2}$ by 24.
(h) $45.5 \times 24 =$
(i) Multiply 48 by $25\frac{1}{2}$.
(j) $48 \times 25.5 =$
(k) Multiply 56 by $23\frac{1}{4}$.
(l) $56 \times 23.2 =$
(m) Multiply 64 by $18\frac{3}{4}$.
(n) $64 \times 18.7 =$
(o) Multiply 86 by $21\frac{1}{2}$.
(p) $86 \times 21.5 =$

DIVISION.

(a) Divide 2106 by 26.
(b) $220.8 \div 24 =$
(c) Divide 1272 by 24.
(d) $687.5 \div 25 =$
(e) Divide 4150 by 25.
(f) $57.46 \div 26 =$
(g) Divide 8372 by 26.
(h) $31.75 \div 25 =$
(i) Divide 5842 by 23.
(j) $637.2 \div 27 =$
(k) Divide 8235 by 27.
(l) $820.8 \div 27 =$
(m) Divide 6345 by 27.
(n) $63.18 \div 27 =$
(o) Divide 8475 by 25.
(p) $94.25 \div 25 =$

For *dictation exercises* in addition, subtraction, multiplication, and division.*

	(a)	(b)	(c)	(d)
1.	6240	3675	5272	3852
	3760	6325	4728	6148
2.	5320	4354	3904	4266
	4680	5646	6096	5734
3.	7460	7532	7384	5058
	2540	2468	2616	4942
4.	4020	5831	3272	6282
	5980	4169	6728	3718
5.	1960	6202	4352	7506
	8040	3798	5648	2494
6.	2520	2947	5376	3528
	7480	7053	4624	6472
7.	3740	8274	4200	2358
	6260	1726	5800	7642
8.	8520	7385	6736	8172
	1480	2615	3264	1828
9.	5520	5467	8296	3726
	4480	4533	1704	6274
10.	7660	4445	2776	5544
	2340	5555	7224	4456

*See "Suggestions to Teachers," pp. 247 and 248.

DEFINITIONS AND EXPLANATIONS.*

A **unit** is one.

A **number** is one or it is composed of ones.

Notation is the art of expressing numbers by figures or other characters.

ARABIC NOTATION.

In the Arabic Notation **figures** are employed. The figures are: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

In the number 29, the figure 9 is said to stand in the *first place* and the figure 2 in the second place.

In the number 437, the figure 7 is said to stand in the first place, the figure 3 in the second place, and the figure 4 in the third place.

In the number 8156, the figure 6 is said to stand in the first place, the figure 5 in the second place, the figure 1 in the third place, and the figure 8 in the fourth place.

A figure in the first place expresses *units*.

A figure in the second place expresses *tens*.

A figure in the third place expresses *hundreds*.

A figure in the fourth place expresses *thousands*.

A figure in the fifth place expresses *tens of thousands*.

In the number 4.65, the figure 6 is said to be in the *first decimal place*, the figure 5 in the second decimal place.

A figure in the first decimal place expresses *tenths*.

A figure in the second decimal place expresses *hundredths*.

Tell what each figure expresses in the following combination: 2764.35.

*See that the pupil can read the following pages intelligently before he is asked to commit to memory any part of them.

ADDITION.

Addition is the process of uniting two or more numbers into one number.

The **sum** is the number obtained by adding.

```
 26
 49
---
 75 (Sum.)
```

SUBTRACTION.

Subtraction is the process of taking one number from (out of) another number.

The **minuend** is the number from which another number is taken.

The **subtrahend** is the number taken from another number.

The **difference** is the number obtained by subtracting.

```
$75 (Minuend.)
$38 (Subtrahend.)
---
$37 (Difference.)
```

Observe that the sum of the subtrahend and difference equals the minuend.*

MULTIPLICATION.

Multiplication is the process of taking one number as many times as there are units in another number.

The **multiplicand** is the number taken, or repeated.

The **multiplier** is the number that shows how many times the multiplicand is to be taken, or repeated.

```
$36 (Multiplicand.)
 25 (Multiplier.)
----
$180
$72
-----
$900 (Product.)
```

*Teach pupils to "prove" their problems in subtraction.

The **product** is the number obtained by multiplying.

In the example given, \$180 and \$720 are called the partial (part) products. \$180 is the product of \$36 and 5; \$720 is the product of \$36 and 20.

Observe that dividing the product by the multiplier gives the multiplicand.*

DIVISION.

Division is one of *two* processes.

I. It is finding how many times one number is contained in another number; $\$18 \div \$2 = 9$.

II. It is finding one of the equal parts of a number; $\$18 \div 2 = \$9$.

To divide \$18 by \$2 means to separate \$18 into groups of \$2 each and *count the groups.* To divide \$18 by 2 means to separate \$18 into 2 equal groups, and *count the dollars in one group;* that is, find one half of \$18. In Case I. the quotient tells *how many times* the divisor is contained in the dividend. In Case II. the quotient is a *part of the dividend.*

To the Teacher.—The second case is often very properly called partition. But both processes are evidently cases of division, since in both instances we separate (divide) the given number into equal parts. In Case I. we count the parts (groups). In Case II. we count the units in each part (group).

The **dividend** is the number divided or separated.

The **divisor** is the number by which we divide.

The **quotient** is the number obtained by dividing.

* Teach pupils to "prove" their problems in multiplication.

Observe that in either case the product of the divisor and quotient equals the dividend.*

To the Teacher.—There can be no remainder in a complete division. Therefore, the product of the quotient and divisor is *always* equal to the dividend. We may have a remainder when the process of dividing is incomplete. In such a case the quotient is incomplete and the remainder is the undivided part of the dividend. To the product of the *incomplete quotient* and divisor add the remainder, and the sum thus obtained will be equal to the dividend.

An even number is the number two, or a number that can be separated into twos; as, 4, 6, 20, 40, 44, etc.

A number that cannot be exactly separated into twos is called an odd number: as, 3, 5, 7, 21, 71, etc.

FRACTIONS.

A **fraction** is one or more of the equal parts of a unit.

A fraction is usually expressed by two numbers, one of them being written above a short horizontal line and the other below it; thus, $\frac{3}{4}$, $\frac{2}{5}$, $\frac{3}{15}$.

The number above the line is called the **numerator.**

The number below the line is called the **denominator.**

The denominator shows the number of equal parts into which the unit is divided.

*Teach the pupils to "prove" their problems in division.

The numerator shows the number of parts taken.

The denominators of some fractions are not usually expressed by figures; thus, 5 tenths is usually written, .5; 27 hundredths is usually written, .27.

Of the fraction $\frac{7}{8}$, 7 is the numerator and 8 is the denominator.

Of the fraction .5, 5 is the numerator and 10 is the denominator.

Of the fraction .27, 27 is the numerator and 100 is the denominator.

If the numerator and the denominator of a fraction are the same number, as $\frac{8}{8}$, $\frac{12}{12}$, $\frac{20}{20}$, etc., the fraction is equal to one unit.

If the numerator of a fraction is greater than the denominator, as $\frac{8}{5}$, $\frac{11}{10}$, $\frac{25}{6}$, etc., the fraction is equal to more than one unit.

A fraction whose numerator is equal to or greater than its denominator is called an **improper fraction.**

A fraction whose numerator is less than its denominator is called a **proper fraction.**

Two thirds, $\frac{3}{4}$, $\frac{5}{6}$, $\frac{20}{21}$, are proper fractions.

Five fourths, $\frac{7}{3}$, $\frac{9}{5}$, $\frac{25}{20}$, are improper fractions.

DRY MEASURE.

2 pints (pt.) = 1 quart (qt.).
8 quarts = 1 peck (pk.).
4 pecks = 1 bushel (bu.).

LIQUID MEASURE.

2 pints (pt.) = 1 quart (qt.).
4 quarts = 1 gallon (gal.).

MEASURE OF TIME.

60 seconds (sec.) = 1 minute (min.).
60 minutes = 1 hour (hr.).
24 hours = 1 day (da.).
7 days = 1 week (wk.).
28 to 31 days = 1 month (mo.).
12 months = 1 year (yr.).
365 days = 1 common year.
366 days = 1 leap year.
52 weeks and 1 day = 1 common year.
52 weeks and 2 days = 1 leap year.

LINEAR MEASURE.

12 inches (in.) = 1 foot (ft.).
3 feet = 1 yard (yd.).

AVOIRDUPOIS WEIGHT.

16 ounces (oz.) = 1 pound (lb.).
2,000 pounds = 1 ton (T.).

SQUARE MEASURE.

144 square inches (sq. in.)=1 square foot (sq. ft.).
9 square feet (sq. ft.) = 1 square yard (sq. yd.).

ROMAN NOTATION.

In the Roman Notation **seven capital letters** are employed. The letters are—I, V, X, L, C, D, M.

I. = 1, V. = 5, X. = 10, L. = 50, C. = 100,
D. = 500, M. = 1000.

PRINCIPLES.

When a letter is repeated its value is repeated. XX. = 20. II. = 2.

When a letter is placed before one of greater value, the difference of their values must be taken. IX. = (10 − 1) = 9.

When a letter is placed between two letters each of greater value, its value is taken from the last letter. XIX. = 10 + 10 − 1 = 19.

Placing a short horizontal line over a letter multiplies its value by 1000. $\overline{\text{X}}$. = 10,000.

Sometimes small letters are employed instead of capitals; thus, ii. = 2, iv. = 4, etc.

ROMAN NOTATION TABLE.

I. = 1.*	XXX. = 30.	XXXVIII. = ——.
II. = 2.	XL. = 40.	XLVI. = ——.
III. = 3.	L. = 50.	MDCC. = ——.
IV. = 4	LX. = 60.	XCIX. = ——.
V. = 5.	LXX. = 70.	CCCVI. = ——.
VI. = 6.	LXXX. = 80.	DXLV. = ——.
VII. = 7.	XC. = 90.	XXIV. = ——.
VIII. = 8.	C. = 100.	LXXXIV. = ——.
IX. = 9.	CC. = 200.	LXXVI. = ——.
X. = 10.	CCC. = 300.	XLVII. = ——.
XI. = 11.	CCCC. = 400.	XXXII. = ——.
XII. = 12.	D. = 500.	XCVII. = ——.
XIII. = 13.	DC. = 600.	LVIII. = ——.
XIV. = 14.	DCC. = 700.	CCXIX. = ——.
XV. = 15.	DCCC. = 800.	DXIX. = ——.
XVI. = 16.	DCCCC. = 900.	MXIX. = ——.
XVII. = 17.	M. = 1000.	LXXXI. = ——.
XVIII. = 18.	MM. = 2000.	LXIV. = ——.
XIX. = 19.	$\overline{\text{V}}$. = 5000.	MDCCC. = ——.
XX. = 20.		MDCCCXCVI. = ——.

The author of this book was born Feb. IX., in the year of our Lord MDCCCXLI.

The Roman notation is now chiefly employed in numbering chapters or lessons, in dates, and upon the dials of time-pieces.

How is the number four represented upon the face of a clock ?

*A period is usually placed after each completed Roman numeral.

SUGGESTIONS TO TEACHERS.

Read the preface of this book. Read pages 5 and 6, and see that pupils are familiar with the number facts there presented before they are required to bring the book to the schoolroom. But even after the book is in the hands of the pupil, he should not, as a rule, be asked to read a page until the teacher has assured herself that he is thoroughly prepared for it. *The pupil cannot prepare himself.* It is the business of the teacher not simply to "hear recitations," but *to teach.* The teaching to be done in connection with a page of this book, should be done mainly *before* the pupil attempts to read it. This teaching is the leading of the pupil to perceive those magnitude relations and to memorize those primary number facts which are necessary to be perceived and memorized in order that the pupil may be able to read the pages. Until the teacher can devise a better plan for herself, she should adhere strictly to the following order of procedure:

STEP I.

The teacher takes the book. The pupils are without books and give their undivided attention to the teacher. The teacher reads one of the statements, pausing at the blank for the pupils to supply the necessary word or words. Pupils signify their readiness to answer by raising their right hands. The teacher names the pupil who is to give the words to be supplied. (Occasionally, especially if the problems seem difficult, a pupil may come forward briskly and whisper his answer to the teacher. Another and another may follow rapidly until all who are prepared to do so have given answers. This promotes independence and enables the teacher better to judge of individual work). If the teacher discovers that there are primary number facts introduced on the page which have not been memorized by the pupil, this should be attended to at once. Do not proceed until this has been thoroughly accomplished. Better spend several days, if necessary, in the preparation for reading a single page, than to attempt to read it without proper preparation.

STEP II.

See that each pupil is familiar with the written forms of all words appearing upon the page under consideration. Use the blackboard for this purpose and, as a rule, show new words in the connection in which they appear in the book.

STEP III.

Put the book into the hands of the pupils and let them read silently the page for which preparation has been made.

STEP IV.

The pupils may now read aloud the page which has been read silently. If the work of preparation has been thoroughly done there will be but little hesitation on the part of the pupils in reading the page.

STEP V.

The pupils may copy (filling the blanks) *some designated part* of the page that has been read. Allow no careless written work. In examining the papers make but two classes; those that are "perfect" and those that are "imperfect." The teacher is at fault if more than half the papers are "imperfect." In a well taught class often 90 per cent. of the papers will be "perfect." In this examination of papers, spelling, capital letters, punctuation, and accuracy of result are to be considered. If there be a single misspelled word, or one figure or punctuation mark be wrong, the paper must be excluded from the "perfect paper" class. If the teacher finds it seemingly impossible to secure 50 to 75 per cent. of "perfect papers," more time should be spent in preparation and the amount of work required of the pupil should be diminished. Better a single statement accurately written than a half page with many errors. The work of the teacher should be *not mainly the correction but the prevention of errors.*

Page 9.—If the pupil is prepared to read in a Third Reader, and if the number facts given on pages 5 and 6 have been mastered, he will read this page without much hesitation. If he finds difficulty in calling the words, lay the book aside and teach him to read. If he cannot readily fill the blanks, teach him orally the necessary number facts.

Page 10.—During the first reading of this page by the teacher (the pupils filling the blanks) each pupil should have a foot ruler in his hand. After this, it should be read a second time, the ruler being hidden from view.

Before reading statements 11 and 13, the pupils may "draw a square in the air" if such a procedure is necessary to assist the imaginative power. *They must be trained in every possible way to image magnitude.*

Page 11.—Observe that there are problems in addition at the bottom of this page, also on pages 16, 21, 26, 31, 36, etc., throughout the book. So far as practicable, require pupils to make these additions *first without,* then with, the aid of a pencil. The pupil

should perceive the fact that 28 and 2 are 30, before he is allowed to use his pencil to secure this result. He should use his pencil as a preparation for more difficult additions in which the pencil will be a convenience.

Page 12.—Observe that there are problems in subtraction at the bottom of this page, also on pages 17, 22, 27, 32, 37, 42, etc., throughout the book. This work should be done in the same order as suggested for the work at the bottom of page 11.

Page 13.—If the pupil cannot image the squares and oblongs described on this page the pencil or the crayon must be used; but sometime he must learn to image such figures without drawing them. The strength of the pupil depends very largely upon his skill in making accurate mental pictures from oral and written descriptions. *This power must be cultivated from the first.*

Observe that there are problems in multiplication at the bottom of this page, also on pages 18, 23, 28, 33, 38, etc., throughout the book. So far as practicable, require pupils to make these multiplications *first without*, then with, the aid of a pencil. The pupil should perceive the fact that two 35's are 70, before he is allowed to use his pencil and "carry" to secure this result.

Page 14.—Here the pupil should be made somewhat familiar with the meaning and the use of the expression, *are contained in.* Observe that in the problems at the bottom of this page as well as in those on pages 19, 24, 29, 34, 39, 44, 49, etc., the pupil is required to *find how many times one number of things is contained in another number of things.*

Page 15.—Observe that in the problems at the bottom of this page as well as in those on pages 20, 25, 30, 35, 40, 45, etc., the pupil is required to *find one of the equal parts of a number of things;* thus, to divide 12¢ by 2 is to find ½ of 12¢. The pupil should solve these problems "mentally" before using the pencil in their solution.

Page 16.—During the first reading of this page by the teacher (the pupils filling the blanks) the pint and quart measure may be before the pupils. The page should then be read again, the measures being hidden from view.

Page 17.—See note under "Facts of Partition and Multiplication," page 6.

Page 19.—This page should not be attempted until the pupil is familiar with the thermometer and its use. In many schools

the subject of temperature is presented in the lower grades. Even primary pupils will take great interest in a temperature record, and will, with little effort on the part of the teacher, become familiar with this class of problems.

Page 30.—This page is designed to impress upon pupils the double nature of abstract problems in division. 6 divided by 2, may mean, *find how many times 2* (apples, dollars, cents) *are contained in 6* (apples, dollars, cents), or it may mean *find* $\frac{1}{2}$ *of 6* (apples, dollars, cents.)

Page 31.—The pupil who has done the work thoroughly to this point will be able to read this page, filling all the blanks correctly, in two minutes or less.

Page 32.—Before proceeding further, see that each pupil has so perfectly memorized the thirty-three addition problems that he can recite the answers to them in 33 seconds or less. Do not require him to name the figures, but to give sums only.

Page 35.—Do not at first use a digit to represent the number of parts into which a unit is divided. Instead of $\frac{1}{4}$, write *one-fourth* or *1 fourth*.

Pages 35, 36, 37, 38.—Observe that in solving the problems on page 35, the pupil thinks of *surface* magnitude; page 36, *linear* magnitude; page 37, *value* magnitude; while on page 38, all these are presented.

Page 41.—The three number facts here given must be *perfectly memorized*. Pupils cannot easily and quickly perceive magnitude relation without the mastery of the primary number facts. The more important of these are given on pages 41, 51, 61, 71, 81, 91, 101, 111, 121, 131, 141, 151, and reviewed on page 152. See that these facts are mastered when presented. *Do not allow it to be truthfully said of your fourth grade pupil that he "does not know the multiplication table."*

Page 45.—Teach orally the facts given on this page before the pupil is asked to read it. Put diagrams on the blackboard and continue the oral work, if need be, for several days, until the pupil can easily think one half, one fourth, one sixth *of some thing* when the words that should suggest these are spoken. Success here, as everywhere in mathematics, depends upon the ability of the pupil to bring imaged magnitude into consciousness.

The suggestions given for page 45 will apply to pages 55, 65, 75, 85, 95, 105, 115, 125, 135, 145. If the pupil is unable to fill the

blanks on any one of these pages *promptly*, review all similar pages preceding it. If this does not enable the teacher to secure satisfactory results, more oral work should be done with the diagrams on the blackboard confronting the pupil. The learner must *perceive* that $\frac{1}{2}$ and $\frac{1}{8}$ are $\frac{5}{8}$; that $\frac{1}{4}$ and $\frac{1}{8}$ are $\frac{3}{8}$, etc.

Observe that each of these pages provides problems in addition, subtraction, multiplication, division, and "partition" of fractions.

Page 48.—Regard the problems on this page, particularly those near the top of the page, as a test of the quality of the work of the teacher and pupil while passing over the preceding pages of the book. Indeed the same may be said with reference to almost any page in the book after the first; but this thought is especially applicable to pages 48, 58, 68, 78, 88, 98.

Page 53.—Teach orally the meaning and use of the word *perimeter*. Do the same with other terms introduced on pages 63 and 73. Perfect familiarity with these terms and the ability to image such figures as are mentioned, are the necessary preparation for the work on pages 83, 93, 103, 113, 123, 133, 143.

Page 64.—Lead pupils to distinguish sharply between the two kinds of problems given in the first four examples. Ask, again and again, when a problem like one of these is presented, *What does it mean?*" See pages 74, 84, 94.

Page 67.—The drill suggested on this page is invaluable. The other steps of this drill will be found on pages 77, 87, 97, 107, 117, 127, 137. Require pupils to add numbers represented by figures in a column, without naming each number; thus, in adding column (a) page 67, the pupils will say, *two*, *four*, *six*, *eight*, etc. Put columns similar to these upon the blackboard and continue the drill until the pupils can add a column made up of 2's and 1's, or of 3's, 2's, and 1's, almost as readily as they can add a column of 2's or of 3's.

Page 70.—On this page tenths are presented for the first time without the written denominator. If the pupil clearly understands that .4 is another way of writing $\frac{4}{10}$, and that 2.7 is another way of writing $\frac{27}{10}$ or $2\frac{7}{10}$, he will readily do work suggested on this page and similar work found on pages 80 and 90.

Page 89.—If pupils are taught *the meaning* of the different problems on this page they will find no very great difficulty in their solution. The same may be said of the same class of problems found on pages 96, 99, 106, 109, 116, 119, 126, 136, 146.

Page 104.—Be sure that the pupil understands the meaning of the work on this page. Before he attempts to *multiply by a fraction*, what it means to do this, must be made clear to him. He must not be allowed to proceed mechanically to obtain an *answer* while he knows nothing of the magnitude relation involved. To multiply by $\frac{1}{2}$ is to take once $\frac{1}{2}$ of a magnitude, that is, $\frac{1}{2}$ of it; to multiply by $\frac{3}{4}$ is to take three times $\frac{1}{4}$ of a magnitude, that is, $\frac{3}{4}$ of it.

Page 109, Prob. 10.—To multiply $\frac{1}{2}$ ft. by $2\frac{1}{2}$, take 2 times $\frac{1}{2}$ of a foot and to this add $\frac{1}{2}$ of $\frac{1}{2}$ of a foot. Prob. 16.—To multiply 1.2 in. by $2\frac{1}{2}$, take 2 times 1.2 in. (12 tenths), to which add $\frac{1}{2}$ of 1.2 in. (12 tenths).

Page 114, Problems 4 and 10.—Remind the pupil that to multiply by $2\frac{1}{2}$, he must take 2 times the multiplicand and to this add $\frac{1}{2}$ of the multiplicand. The multiplying of $2\frac{1}{2}$ by $2\frac{1}{2}$ becomes a very simple problem when the pupil understands *what it means.*

Page 152.—Do not allow a pupil to begin the work in Part III of this book until he has memorized *every number fact given on this page.*

Pages 153 to 172.—Observe that these 20 pages are devoted to the solution of problems involving whole numbers and *tenths.* The usual "spiral" appears on pages 153, 154, 155. Another "spiral" covers pages 156 to 159. Pages 161 to 164 are for the purpose of teaching the multiplication of any integral number (of things) by tenths. See that each step in this work is made clear to the pupil. Review many times if necessary. Pages 166 to 170 are for the purpose of making clear the distinction between (1) dividing a number of tenths (of things) by a number of tenths (of things) and (2) finding one of the equal parts of a number of tenths (of things). If this work is done as here suggested it will go a long way in guarding the pupil against errors in "pointing off" in division of decimals.

Pages 171 and 172.—Note the similarity of the *numbered* or "*figure problems*" to the corresponding "*letter problems.*" Pupils who have solved the *figure problems* in class, should be able to solve the *letter problems* without assistance, at their seats.

Page 173.—See that the pupil understands that to multiply 45 by 23, he may take 3 times 45, and 20 times 45, and find their sum.

Page 182.—Pupils should solve the *figure problems* in class; the *letter problems* without assistance at their seats.

Page 188.—Pupils should be reminded, if necessary, that a square inch is a 1-inch square *or its equivalent.*

Pages 193 to 212.—Observe that these pages are devoted to the solution of problems involving whole numbers, tenths, and *hundredths.* Review, if necessary, pages 153 to 172. Compare the following: Pages 153 and 193; 154 and 194; 155 and 195, etc.

Pages 230 and 231.—The pupil should be expected to do this work, and to solve such problems as may be dictated from page 240, *with "perfect accuracy."* Nothing short of this should be commended in mechanical processes. *To have one figure wrong in one problem of every ten is failure. "Ninety per cent"* in such work is neither "*excellent*" nor "*good,*" it is *worthless.* Careless work must not be tolerated. The *accurate habit* must be established.

Page 232.—Hundreds of problems may be given by dictation from this page, and the teacher may know the answer to each problem with very little effort.

ADDITION.

Give any integral number represented by four figures, as **2461,** and with this give all the numbers in any *three* groups on the page; their sum is **32461.** The same number with any *four* groups will give **42461**; with any *five* groups, **52461,** etc. In giving the numbers in the groups, give first, one from each group; then, the remaining one of each group. Of course it is not necessary that the number supplied by the teacher should always be given *first.*

SUBTRACTION.

Take any number greater than 10000; from this subtract first one number of a group; from the remainder subtract the other number of the group; the last result should be the given number less 10000. Take the number **15246**; subtracting as directed, the last result will be **5246.**

Subtract either number of any group from 10000, and the result will be the other number of the group.

Subtract either number of any group from a number that is 2 or 5 or 25 or 100 or 1000 *more than* 10000, and the result will be 2 or 5 or 25 or 100 or 1000 *more than the other number of the group.*

MULTIPLICATION.

Multiply any number by 3 and by 7, or by 4 and by 6, or by 2

and by 8, and the sum of the two products equals 10 times the number.

Multiply any number by 7 and by 8 and the sum of the two products equals 15 times the number, or 10 times the number plus $\frac{1}{2}$ of 10 times the number.

Multiply any number by 42 and by 58, or by 47 and by 53, or by 36 and by 64, and the sum of the two products equals 100 times the number.

DIVISION.

Divide any number by 4 and by 5 and by 20, and the sum of the three quotients equals $\frac{1}{2}$ of the number.

Divide any number by 3 and by 6, and the sum of the two quotients equals $\frac{1}{2}$ of the number.

Divide the numbers in any group on the page by 7, and the sum of the two quotients is $1428\frac{4}{7}$.

Divide the numbers in any group on the page by 8, and the sum of the two quotients is 1250.

Divide the numbers in any group on the page by 9, and the sum of the two quotients is $1111\frac{1}{9}$.

Each number in column (a) is exactly divisible by 2, by 4, by 5, by 10, and by 20.

The first number of each group in column (b) is exactly divisible by 7.

The first number of each group in column (c) is exactly divisible by 8.

The first number of each group in column (d) is exactly divisible by 3, by 6, and by 9,

If the teacher will make herself thoroughly familiar with the foregoing statements, she will be able to dictate an unlimited amount of practice work, and to test the accuracy of the pupils, without actually solving the problems herself.

REVIEW.

If, after the book has been completed, the pupils are found inaccurate and unskilled in mechanical processes, review the work found at the bottom of each page from page 9 to page 229. *Insist upon absolute accuracy.*

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